STIC Search Report
EIC 1700

STIC Database Tracking Number: 162359

TO: Jill M Gray **Location: REM 10A64** **Art Unit : 1774** **September 2, 2005** **Case Serial Number: 10/662350**	**From: Les Henderson** **Location: EIC 1700** **REM 4B28 / 4A30** **Phone: 571-272-2538** **Leslie.henderson@uspto.gov**

Search Notes

STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact ***the EIC searcher or contact:***

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

10/662350

Access DB# 162359

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jill Graf Examiner #: 66983 Date: 8/9/05
Art Unit: 1774 Phone Number 30 2-1524 Serial Number: 10/662350
Mail Box and Bldg/Room Location: 10A64 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Polyolefin fibers and their Use in the Preparation of Nonwovens w/ High Bulk & Resilience
Inventors (please provide full names): Thomsen, Susanne; Mikkelsen, Torben; Moller, Mikael Stengaard, Flemming

Earliest Priority Filing Date: 9/19/02

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

P/S Search attached Clms

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STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: ZA	NA Sequence (#)		STN	$ 1154.33
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	✓	Dr.Link	
Date Completed: 9/1/05	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 30	Fulltext		Sequence Systems	
Clerical Prep Time: 30	Patent Family		WWW/Internet	
Online Time: 230	Other		Other (specify)	

PTO-1590 (8-01)

AMENDMENTS TO THE CLAIMS

List of Claims:

1. (Previously Presented) A fibre comprising polyolefin polymer, said fibre having the features:

i) a fibre/fibre friction of no more than 600 g;

ii) a spin finish consisting essentially of an aqueous emulsion of polysiloxanes, with at least 25% of the active content being polysiloxanes; and

iii) a fibre crystallinity of at least 50%.

2. (Original) A fibre according to claim 1 wherein the fibre/fibre friction is no more than 500 g.

3. (Original) A fibre according to claim 1 wherein the fibre/fibre friction is 200 to 600 g.

4. (Original) A fibre according to claim 1, wherein the spin finish consists essentially of an aqueous emulsion of polysiloxanes of at least 30% active content.

5. (Previously Presented) A fibre according to claim 4, wherein the spin finish is applied at a concentration of 2-15% wt/wt active content.

6. (Previously Presented) A fibre according to claim 4, wherein the spin finish level is 0.2 to 1% wt/wt with respect to the fibre.

7. (Original) A fibre according to claim 1, wherein the fibre crystallinity is at least 55% as measured by DSC or XRD.

8. (Original) A fibre according to claim 1, wherein the polyolefin polymer is a nucleated polymer.

9. (Previously Presented) A fibre according to claim 1, wherein the polyolefin polymer is a nucleated polymer, wherein the nucleating agent is selected from the group consisting of talc, metallic salts of aliphatic or aromatic carboxylic acids, branched polymers containing dendrittic branches and minerals selected from the group consisting of chalk, gypsum, clay kaolin, mica, and silicates and compounds that are based on D-sorbitol.

10. (Original) A fibre according to claim 9, wherein the nucleating agent is talc.

11. (Original) A fibre according to claim 9, wherein the polyolefin polymer is a nucleated polymer, nucleated with 5000 to 10000 ppm of talc.

12. (Original) A fibre according to claim 1, wherein the polyolefin is selected from the group consisting of isotactic or syndiotactic polypropylene homopolymers, homo and copolymers of monoolefins such as ethylene, propylene, alphaolefins , 4-methyl-1-pentene and blends thereof, linear polyethylenes, high density polyethylene, low density polyethylene, and linear low density polyethylene and blends of the same.

13. (Original) A fibre according to claim 9, wherein the polyolefin is selected from the group consisting of homopolymer polypropylene and homopolymer polyethylene.

14. (Original) A fibre according to claim 9, wherein the polyolefin is homopolymer polypropylene.

15. (Original) A fibre according to claim 1 with a bulk of at least about 30 cm^3/g.

16. (Original) A fibre according to claim 1, wherein the draw ratio is about 1:2 to 1:8.

17. (Original) A fibre according to claim 1 having an ST dtex value of 2 to 20 dtex.

18. (Previously Presented) A fibre according to claim 1 having a resilience of at least about 40%.

19. (Previously Presented) A fibre according claim 1, wherein the polyolefin has a flexural modulus of at least 1500 MPa.

Claims 20-21 (Cancelled).

22. (Previously Presented) A fibre comprising polyolefin polymer according to claim 1, wherein the polyolefin polymer is a nucleated polymer, and said fibre has

i) a fibre/fibre friction of no more than 600 g;

ii) a spin finish consisting essentially of an emulsion of polysiloxanes;

iii) a draw ratio of at least 1:1.5 with a final fibre fineness of 2 to 10 dtex;

iv) a fibre crystallinity of at least 50%.

23. (Previously Presented) A non-woven material prepared from a polyolefin-based staple fibre as defined in any one of claims 1-19 and 22.

24. (Previously Presented) A non-woven material comprising polyolefin-based staple fibre, wherein the non-woven material has a bulk of at least 30 cm^3/g and a resilience of at least 50%.

25. (Previously Presented) A non-woven material according to claim 24, wherein the non-woven material has a resilience of at least 55%.

26. (Previously Presented) A non-woven material according to any one of claims 24 to 25, wherein the nonwoven material has bulk of at least 35%.

27. (Currently Amended) A method of preparing a polyolefin-based fibre, said method characterised in the use of a nucleated polymer, a draw ratio of at least 1:1.5

with a final fibre dtex of 2 to 10 dtex., and a spin finish consisting essentially of an emulsion of polysiloxanes, with at least 25% of the active content being polysiloxanes.

28. (Previously Presented) A method according to claim 27, wherein the polymer is selected from polyethylene and polypropylene.

29. (Original) A method according to claim 27, wherein the draw ratio is 1:2 to 1:8.

Claim 30 (Cancelled)

31. (Currently Amended) A method according to claim ~~30~~ 27, wherein the spin finish is applied at a concentration of 2-15% wt/wt active content.

32. (Currently Amended) A method according to claim ~~30~~ 27, wherein the spin finish level is 0.2 to 1% wt/wt with respect to the fibre.

33. (Previously Presented) A method of preparing a non-woven material comprising the use of a fibre as defined

in any one claims 1 to 19 and 22, or the use of a fibre prepared according to the method according to any one of claims 27 to 32, comprising the steps of

(a) forming a fibrous bond comprising said fibres, and

(b) bonding the fibrous web.

34. (Original) A method according to claim 33, wherein the fibres are oven-bonded at a temperature of 130 to 150 °C.

35. (Previously Presented) A fibre according to claim 1, wherein the fibre crystallinity of at least 50 % is achieved by:

iv) a draw ratio of at least 1:1.5; or

v) the polyolefin polymer being a nucleated polymer.

36. (Previously Presented) A fibre according to claim 1, wherein the spin finish is an external spin finish.

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     (FILE 'HOME' ENTERED AT 14:27:18 ON.01 SEP 2005)

     FILE 'HCAPLUS' ENTERED AT 14:27:34 ON 01 SEP 2005
                E US20050079345/PN
L1              1 SEA ABB=ON  PLU=ON  US20050079345/PN
                SEL L1 RN

     FILE 'REGISTRY' ENTERED AT 14:28:07 ON 01 SEP 2005
L2              9 SEA ABB=ON  PLU=ON  (13397-24-5/BI OR 135861-56-2/BI OR
                14807-96-6/BI OR 25085-53-4/BI OR 26063-22-9/BI OR
                50-70-4/BI OR 581798-19-8/BI OR 74-85-1/BI OR 9002-88-4/B
                I)
                D SCAN
                D L2 1-6 RN STR
                D L2 8-9 RN STR
                D L2 7 RN STR
L3              1 SEA ABB=ON  PLU=ON  13397-24-5/RN
                D SCAN
L4              1 SEA ABB=ON  PLU=ON  135861-56-2/RN
                D SCAN
L5              1 SEA ABB=ON  PLU=ON  14807-96-6/RN
                D SCAN
L6              1 SEA ABB=ON  PLU=ON  25085-53-4/RN
                D SCAN
L7              1 SEA ABB=ON  PLU=ON  26063-22-9/RN
                D SCAN
L8              1 SEA ABB=ON  PLU=ON  50-70-4/RN
                D SCAN
L9              1 SEA ABB=ON  PLU=ON  581798-19-8/RN
                D SCAN
L10             1 SEA ABB=ON  PLU=ON  74-85-1/RN
                D SCAN
L11             1 SEA ABB=ON  PLU=ON  9002-88-4/RN
                D SCAN

     FILE 'HCAPLUS' ENTERED AT 14:39:11 ON 01 SEP 2005
L12         27609 SEA ABB=ON  PLU=ON  L3
L13         45162 SEA ABB=ON  PLU=ON  GYPSUM?
L14         46288 SEA ABB=ON  PLU=ON  L12 OR L13
L15           142 SEA ABB=ON  PLU=ON  L4
L16          2453 SEA ABB=ON  PLU=ON  L15 OR D(A)SORBITOL? OR DSORBITOL?
L17         29871 SEA ABB=ON  PLU=ON  SORBITOL?
L18         27459 SEA ABB=ON  PLU=ON  L17 NOT L16
L19         29912 SEA ABB=ON  PLU=ON  L16 OR L17
L20         24269 SEA ABB=ON  PLU=ON  L5
L21         43353 SEA ABB=ON  PLU=ON  L20 OR TALC?
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                D 20-30 KWIC
L22         19408 SEA ABB=ON  PLU=ON  L6
L23        155787 SEA ABB=ON  PLU=ON  POLYPROPYLENE# OR (POLY O POLYM? OR
                  HOMOPOLYM?)(A)PROPYLENE#
L24         17895 SEA ABB=ON  PLU=ON  ISOTACT?(2A)L23
L25          1482 SEA ABB=ON  PLU=ON  SYNDIOTACT?(2A)L23
L26             8 SEA ABB=ON  PLU=ON  ADSTIF?
                  D SCAN
L27          8857 SEA ABB=ON  PLU=ON  L23(2A)(COPOLYM? OR CO(W)POLYM?)
L28         47662 SEA ABB=ON  PLU=ON  (COPOLYM? OR CO(W)POLYM?)(2A)PROPYLEN
                  E#
L29         52761 SEA ABB=ON  PLU=ON  L27 OR L28
L30         17899 SEA ABB=ON  PLU=ON  L24 OR L26
L31          1277 SEA ABB=ON  PLU=ON  L7
L32          1558 SEA ABB=ON  PLU=ON  L31 OR L25
L33        185257 SEA ABB=ON  PLU=ON  (L23 OR L24 OR L25 OR L26 OR L27 OR
                  L28 OR L29 OR L30 OR L31 OR L32)
L34         18952 SEA ABB=ON  PLU=ON  L8
L35          2325 SEA ABB=ON  PLU=ON  D(A)SORBITOL? OR DSORBITOL?
L36             2 SEA ABB=ON  PLU=ON  L9
                  D SCAN
L37            13 SEA ABB=ON  PLU=ON  L36 OR LUROL?
L38         88596 SEA ABB=ON  PLU=ON  L10
L39         31742 SEA ABB=ON  PLU=ON  ETHENE#
L40         31026 SEA ABB=ON  PLU=ON  ALPHA(A)OLEFIN#
L41          5872 SEA ABB=ON  PLU=ON  L39(L)L40
L42          5748 SEA ABB=ON  PLU=ON  L39(3A)L40
L43          5872 SEA ABB=ON  PLU=ON  L41 OR L42
L44        173644 SEA ABB=ON  PLU=ON  L11
L45               QUE ABB=ON  PLU=ON  POLYMER## OR HOMOPOLYMER## OR
                  COPOLYMER## OR TERPOLYMER## OR RESIN? OR GUM?
L46       2391109 SEA ABB=ON  PLU=ON  POLYETHYLENE# OR L45 OR ETHYLENE#(2A)
                  L45
L47            54 SEA ABB=ON  PLU=ON  ((FIBER?(A)FIBER?) OR (FIBRE#(A)FIBRE
                  #))(2A)FRICTION?
L48             3 SEA ABB=ON  PLU=ON  G(2A)L47
                  D SCAN
                  D 1-3 KWIC
L49          3586 SEA ABB=ON  PLU=ON  (FIBER?(A)FIBER?) OR (FIBRE#(A)FIBRE#
                  )
L50            69 SEA ABB=ON  PLU=ON  L49(4A)FRICTION?
L51            28 SEA ABB=ON  PLU=ON  L49(4A)G
                  D 1-10 KWIC
L52        741965 SEA ABB=ON  PLU=ON  E(W)G
L53            15 SEA ABB=ON  PLU=ON  L51 NOT L52
                  D L53 1-15 KWIC
L54            13 SEA ABB=ON  PLU=ON  L51 NOT L53
                  D 1-13 KWIC
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L55          601 SEA ABB=ON  PLU=ON  SPIN?(2A)FINISH?
L56      1200984 SEA ABB=ON  PLU=ON  FIBER? OR FIBR? OR FILAMENT? OR
                 THREAD? OR STRAND? OR RIBBON? OR FILIFORM?
L57       117898 SEA ABB=ON  PLU=ON  POLYOLEFIN? OR OLEFIN?(2A)L45
L58        19871 SEA ABB=ON  PLU=ON  L56 AND L57
L59            2 SEA ABB=ON  PLU=ON  L58 AND L50
                 D SCAN
L60           12 SEA ABB=ON  PLU=ON  L58 AND L55
                 D SCAN
L61           12 SEA ABB=ON  PLU=ON  L59 OR L60
L62            1 SEA ABB=ON  PLU=ON  L58 AND L53
                 D SCAN
L63           12 SEA ABB=ON  PLU=ON  L61 OR L62
L64        14949 SEA ABB=ON  PLU=ON  L56(2A)CRYST?
                 D 1-9 KWIC
L65         2121 SEA ABB=ON  PLU=ON  L56(2A)CRYSTALLINIT?
                 D 5-9 KWIC
L66           54 SEA ABB=ON  PLU=ON  L65 AND L58
L67            1 SEA ABB=ON  PLU=ON  L66 AND L55
                 D SCAN
L68            1 SEA ABB=ON  PLU=ON  L66 AND L50
L69            1 SEA ABB=ON  PLU=ON  L66 AND L53
                 D QUE L66
                 D QUE L55
L70       191279 SEA ABB=ON  PLU=ON  (SUSPEN? OR DISPERS? OR COLLOID? OR
                 EMULS? OR MICROEMULS? OR SLURR?)(2A)(AQUEOUS? OR WATER?
                 OR H2O)
L71           44 SEA ABB=ON  PLU=ON  L55 AND L70
L72       155112 SEA ABB=ON  PLU=ON  ?SILOXANE?
L73            3 SEA ABB=ON  PLU=ON  L72 AND L71
L74         7065 SEA ABB=ON  PLU=ON  L72 AND L70
L75            3 SEA ABB=ON  PLU=ON  L74 AND L55
                 D QUE
L76            0 SEA ABB=ON  PLU=ON  L75 AND (PERCENT? OR PER(W)CENT? OR
                 PCT?)
L77            1 SEA ABB=ON  PLU=ON  L75 AND L58
                 D QUE
                 D QUE L70
L78              QUE ABB=ON  PLU=ON  SUSPEN? OR DISPERS? OR COLLOID? OR
                 EMULS? OR MICROEMULS? OR SLURR?
L79          878 SEA ABB=ON  PLU=ON  L57 AND L78 AND L72
                 D QUE
L80            2 SEA ABB=ON  PLU=ON  L79 AND L55
L81            1 SEA ABB=ON  PLU=ON  L79 AND L50
L82            3 SEA ABB=ON  PLU=ON  L79 AND L49
L83            1 SEA ABB=ON  PLU=ON  L79 AND L65
L84           16 SEA ABB=ON  PLU=ON  L63 OR (L67 OR L68 OR L69) OR L73 OR
                 L75 OR L77 OR (L80 OR L81 OR L82 OR L83)
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L85       18448 SEA ABB=ON  PLU=ON  ACTIV?(2A)CONTENT?
L86           1 SEA ABB=ON  PLU=ON  (ACTIV?(2A)CONTENT?) AND L84
                D SCAN
L87           3 SEA ABB=ON  PLU=ON  (ACTIV?(2A)CONTENT?) AND L58
L88          18 SEA ABB=ON  PLU=ON  L84 OR L86 OR L87
L89           1 SEA ABB=ON  PLU=ON  (ACTIV?(2A)CONTENT?) AND L55
                D SCAN
L90          18 SEA ABB=ON  PLU=ON  L88 OR L89
L91         122 SEA ABB=ON  PLU=ON  L58 AND NUCLEAT?
                D QUE
L92          37 SEA ABB=ON  PLU=ON  L91 AND L21
L93          12 SEA ABB=ON  PLU=ON  L71 AND (PERCENT? OR PER(W)CENT? OR
                PCT? OR WT OR WEIGHT?)
L94          29 SEA ABB=ON  PLU=ON  L90 OR L93
L95       53744 SEA ABB=ON  PLU=ON  DSC?
                D L95 1-20 KWIC
L96       73835 SEA ABB=ON  PLU=ON  L95 OR DIFFER?(2A)SCAN?(2A)CALOR?
                D L96 1-10 KWIC
L97       58793 SEA ABB=ON  PLU=ON  XRD?
                D L97 1-10 KWIC
L98      346408 SEA ABB=ON  PLU=ON  (X(W)RAY?)(2A)DIFFRACT? OR L97 OR
                X(W)R(W)D
L99           0 SEA ABB=ON  PLU=ON  L94 AND (L98 OR L96)
L100        581 SEA ABB=ON  PLU=ON  L65 AND (L96 OR L98)
                D 1-9 KWIC
L101         16 SEA ABB=ON  PLU=ON  L100 AND L58
                D QUE
L102         45 SEA ABB=ON  PLU=ON  L101 OR L94
                D QUE
L103          2 SEA ABB=ON  PLU=ON  L102 AND L91
                D SCAN
L104         45 SEA ABB=ON  PLU=ON  L103 OR L102
L105       7062 SEA ABB=ON  PLU=ON  NUCLEAT?(2A)AGENT?
L106          1 SEA ABB=ON  PLU=ON  L105 AND L104
                D SCAN
L107         45 SEA ABB=ON  PLU=ON  L106 OR L104
L108      16414 SEA ABB=ON  PLU=ON  (CARBOXYL?(2A)ACID?)(4A)SALT?
L109       6131 SEA ABB=ON  PLU=ON  L108 AND METAL?
L110     330896 SEA ABB=ON  PLU=ON  DENDRIT? AND CHALK? OR KAOLIN?(2A)CLA
                Y? OR MICA# OR SILICAT? OR L19 OR L14
L111       1005 SEA ABB=ON  PLU=ON  (L110 OR L109) AND L105
L112          1 SEA ABB=ON  PLU=ON  L111 AND L107
L113          1 SEA ABB=ON  PLU=ON  L110 AND L107
L114        769 SEA ABB=ON  PLU=ON  L58 AND L110
L115         31 SEA ABB=ON  PLU=ON  L58 AND L111
L116         75 SEA ABB=ON  PLU=ON  L107 OR L112 OR L113 OR L115
L117         43 SEA ABB=ON  PLU=ON  L116 AND (L50 OR L55 OR L65 OR L70)
L118         17 SEA ABB=ON  PLU=ON  L116 AND L21
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L119          58 SEA ABB=ON  PLU=ON  L117 OR L118
L120      265960 SEA ABB=ON  PLU=ON  PPM OR P(W)P(W)M OR PART?(2A)PER(2A)M
                 ILLION?
L121           0 SEA ABB=ON  PLU=ON  L119 AND L120
L122      371683 SEA ABB=ON  PLU=ON  ?OLEFIN? OR L33
                 D SCAN L36
L123          49 SEA ABB=ON  PLU=ON  L119 AND (L122 OR (L38 OR L39 OR L40
                 OR L41 OR L42 OR L43 OR L44))
L124           1 SEA ABB=ON  PLU=ON  (L122 OR (L38 OR L39 OR L40 OR L41
                 OR L42 OR L43 OR L44)) AND L56 AND (L50 AND L55) AND
                 (L65 OR L70)
                 D SCAN
L125           2 SEA ABB=ON  PLU=ON  (L122 OR (L38 OR L39 OR L40 OR L41
                 OR L42 OR L43 OR L44)) AND L56 AND (L50 AND L55)
L126          13 SEA ABB=ON  PLU=ON  (L122 OR (L38 OR L39 OR L40 OR L41
                 OR L42 OR L43 OR L44)) AND L56 AND (L50 OR L55) AND (L65
                 OR L70)
L127          56 SEA ABB=ON  PLU=ON  (L123 OR L124 OR L125 OR L126)
L128           5 SEA ABB=ON  PLU=ON  L127 AND BULK?
L129          56 SEA ABB=ON  PLU=ON  L128 OR L127
L130       22414 SEA ABB=ON  PLU=ON  CM(2A)G OR CENTIMET?(A)CUBE?(2A)(GRAM
                 ? OR G) OR CENTIMET?(3A)(GRAM? OR G)
L131           0 SEA ABB=ON  PLU=ON  L130 AND L129
L132          22 SEA ABB=ON  PLU=ON  L129 AND ((DRAW(2A)RATIO#) OR DTEX#
                 OR RESILIENC? OR FLEX? OR MODUL? OR MPA OR M(W)P(W)A OR
                 NON(W)WOVEN? OR NONWOVEN?)
L133          56 SEA ABB=ON  PLU=ON  L129 OR L132


=> => d l133 1-56 cbib abs hitstr hitind

L133 ANSWER 1 OF 56  HCAPLUS  COPYRIGHT 2005 ACS on STN
2005:344315  Document No. 142:393463  Impact- and heat-resistant plastic
     moldings used in or on the ground.  Matsuoka, Katsuhiro; Fujii,
     Kenji (Mikuni Plastics Co., Ltd., Japan; Daicel Polymer Ltd.).  Jpn.
     Kokai Tokkyo Koho JP 2005105059 A2 20050421, 9 pp.  (Japanese).
     CODEN: JKXXAF.  APPLICATION: JP 2003-337786 20030929.
AB   The moldings comprise (A) 100 parts recycled PET and (B) 1-30 parts
     polyolefins containing (90-10):(10-90) (b-1) epoxy-containing
     olefin copolymers and (b-2) epoxy-free
     olefin copolymers.  Thus, a composition containing recycled
     PET 100, Lotader AX 8840 (ethylene-glycidyl methacrylate copolymer)
     9, and Lotryl 30BA02 (ethylene-Bu acrylate copolymer) 1 part was
     injection-molded to give a test piece showing Charpy impact strength
     (ISO 179) 6.5 kJ/m2, heat distortion temperature (ISO 75, under 1.8
     MPa) 70°, and no sink mark.
IT   14807-96-6, Talc, uses
     RL: MOA (Modifier or additive use); TEM (Technical or engineered
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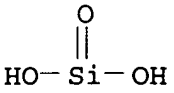
material use); USES (Uses)
(filler; impact- and heat-resistant plastic moldings used in or on ground)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
ICS C08K003-26; C08K003-34; C08K005-098; C08K007-04; G01F001-00; G01F015-18; C08L023-02
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 60
ST plastic molding recycling PET **polyolefin** blend; ethylene glycidyl methacrylate butyl acrylate polymer blend; heat impact resistance plastic molding ground
IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(NEG-T 120; impact- and heat-resistant plastic moldings used in or on ground)
IT Mineral **fibers**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(filler; impact- and heat-resistant plastic moldings used in or on ground)
IT **Mica**-group minerals, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fillers; impact- and heat-resistant plastic moldings used in or on ground)
IT Reinforced plastics
RL: TEM (Technical or engineered material use); USES (Uses)
(glass **fiber**-reinforced; impact- and heat-resistant plastic moldings used in or on ground)
IT Crystal **nucleating agents**
Impact-resistant materials
Recycling of plastics and rubbers
(impact- and heat-resistant plastic moldings used in or on ground)

IT Polyesters, uses
Polyolefins
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(impact- and heat-resistant plastic moldings used in or on ground)

IT Alkali **metal salts**
Alkaline earth **salts**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(of organic **carboxylic acids** or **carboxyl** -containing organic polymers, crystal **nucleation agents**; impact- and heat-resistant plastic moldings used in or on ground)

IT 822-16-2, AFCO-Chem NA
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(crystal **nucleation agent**; impact- and heat-resistant plastic moldings used in or on ground)

IT 471-34-1, Calcium carbonate, uses **14807-96-6**, **Talc**, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(filler; impact- and heat-resistant plastic moldings used in or on ground)

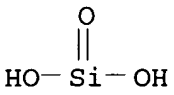
L133 ANSWER 2 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2005:340553 Document No. 142:393218 Regenerated PET compositions with improved moldability and heat and impact resistance, **olefin resin** compositions for modification of regenerated PET, and molded products of them. Fujii, Kenji (Daicel Polymer Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2005105055 A2 20050421, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-337745 20030929.

AB One to 30 parts of **olefin resin** compns. comprising epoxy group-containing **olefin copolymers** and epoxy group-free **olefin copolymers** in the weight ratio of 90:10 to 10:90 are added to 100 parts regenerated PET to give the compns. Thus, recycled PET bottle flakes 100, ethylene-glycidyl methacrylate copolymer (Lotader AX 8840) 9, and ethylene-Bu acrylate copolymer (Lotryl 30BA02) 1 part were blended, kneaded, pelletized, and injection molded to give test pieces showing Charpy impact strength 6.5 kJ/m2, melt flow rate 5 g/10 min, and heat distortion temperature 70°.

IT **14807-96-6**, **Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

RN 14807-96-6 HCAPLUS

CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
ICS C08K003-26; C08K003-34; C08K005-098; C08K007-04; C08L023-08
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
ST recycle PET glycidyl methacrylate ethylene polymer blend impact resistance; heat resistance regenerated PET **polyolefin** blend
IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(T 120, reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
IT Impact modifiers
Recycling of plastics and rubbers
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
IT Polyesters, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
IT **Mica**-group minerals, uses
Mineral **fibers**
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)
IT 822-16-2, Sodium stearate
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agent**; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT 9010-86-0, Ethyl acrylate-ethylene **copolymer** 25103-74-6, Ethylene-methyl acrylate **copolymer** 25750-84-9, Lotryl 30BA02 26061-90-5, Lotader AX 8840 29564-31-6, Ethylene-propyl acrylate **copolymer** 36604-80-5, Ethylene-glycidyl methacrylate-vinyl acetate **copolymer** 51541-08-3, Ethylene-glycidyl methacrylate-methyl acrylate **copolymer** 106677-58-1, Cevian V 680
RL: MOA (Modifier or additive use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT 25038-59-9, PET polymer, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

IT 471-34-1, Calcium carbonate, uses **14807-96-6, Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcement; regenerated PET-**olefin resin** compns. with improved moldability and heat and impact resistance)

L133 ANSWER 3 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:680507 Document No. 141:175420 **Polypropylene fibers** with low residual creep strain manufactured by melt spinning **polypropylene** with degree of crystallinity ≥60%, drawing the **fibers** and heat-treating the **fibers** and manufacture thereof. Fujii, Yasuyuki (Mitsubishi Rayon Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004232117 A2 20040819, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-20439 20030129.

AB The **polypropylene** (I) **fibers** (A1) have **modulus** 5-15 cN/**dtex** and show residual creep strain ≤20% on keeping the **fibers** for 5 h at stress 1 cN/**dtex**, or I **fibers** comprise above A1 **fibers** showing 2-point long-period image in the meridian direction as measured by the small angle **x-ray diffractometry** (SAXS) and exhibiting long period 10-20 nm. The I **fibers** are prepared by melt spinning I with melt flow rate (MFR) 10-50 g/10 min and degree of crystallinity ≥60%, drawing the **fibers**, and heat-treating the **fibers** for 5-60 s at 125-150° under dry hot air flow. I (TA-30) with MFR 30 g/10 min and degree of crystallinity 65% was melted at 200°, melt spun at nozzle temperature 200°, solidified in a cooling column, wound, drawn to **draw ratio** 2.7 at roll temperature 100°, and heat-treated at hot air temperature 140° for 5 s at fixed length to give 800-**dtex**/40-**filament fibers** showing SAXS image and exhibiting **modulus** 7 cN/**dtex** and residual creep strain 9.8%.

IC ICM D01F006-06
CC 40-2 (Textiles and Fibers)
ST **polypropylene fiber** manuf creep strain redn; carpet **polypropylene fiber** creep strain redn
IT Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**polypropylene fibers** with low residual creep strain manufactured by melt spinning **polypropylene** with specified degree of **crystallinity**, drawing the **fibers** and heat-treating the **fibers** and manufacture thereof)
IT Carpets
(**polypropylene fibers** with low residual creep strain manufactured by melt spinning **polypropylene** with specified degree of **crystallinity**, drawing the **fibers** and heat-treating the **fibers** and manufacture thereof for)
IT 25085-53-4, TA 30 (**polyolefin**)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; **polypropylene fibers** with low residual creep strain manufactured by melt spinning **polypropylene** with specified degree of **crystallinity**, drawing the **fibers** and heat-treating the **fibers** and manufacture thereof)

L133 ANSWER 4 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:605461 Document No. 141:158622 Improving the hydrophobicity of silicon-contg. vinyl polymers. Stark, Kurt; Herzig, Christian; Hoegl, Christian (Wacker Polymer Systems GmbH & Co. Kg, Germany). Ger. Offen. DE 10301976 A1 20040729, 19 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2003-10301976 20030120.
AB Silicon-containing vinyl polymers with improved hydrophobicity for manufacture of coatings and plaster are manufactured by polymerization of compns.
containing (A) 60-99.99% silicon-containing monomer and ≥1 monomer selected from vinyl esters of C1-15 aliphatic carboxylic acids, C1-15 alkyl (meth)acrylates, aromatic vinyl compds., **olefins**, dienes, and vinyl halides and (B) 0.01-40% branched polysiloxanes containing lipophilic siloxane structures and, optionally, linear or branched hydrophilic siloxane structures. A typical (B) was manufactured by heating a mixture containing 1,2,4-trivinylcyclohexane 108, α,ω-dihydrogen polymethylsiloxane (**active** H **content** 0.18%) 1840, and Karstedt catalyst 1.9 g 1 h at 80°, and heating the resulting intermediate (**active**

H **content** 0.067%) 1 h at 100° with 3200 g monoallyl-terminated ethylene oxide-**propylene** oxide **copolymer** in the presence of a hexachloroplatinic acid solution

IC ICM C08G077-442
ICS C08L083-10; C09J183-10; C09D183-10

CC 42-10 (Coatings, Inks, and Related Products)

ST silicon contg vinyl polymer hydrophobicity enhancement branched siloxane additive; trivinylcyclohexane hydrogen polysiloxane allyl terminated polyoxyalkylene adduct manuf; **olefin polymer** silicon contg hydrophobicity enhancement branched siloxane additive; diene polymer silicon contg hydrophobicity enhancement branched siloxane additive; acrylic polymer silicon contg hydrophobicity enhancement branched siloxane additive; waterproof silicon contg vinyl polymer coating plaster

IT **Nonwoven** fabrics
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers
as emulsifiers for binders for **nonwoven** fabrics)

IT Water-resistant materials
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers
as **emulsifiers** for **water**-thinned plaster)

IT **Fibers**
RL: MSC (Miscellaneous)
(particulate materials; improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as emulsifiers for binders for particulate materials)

IT Coating materials
(water-resistant; improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as **emulsifiers** for **water**-thinned paints)

IT Adhesives
(water-thinned; improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as **emulsifiers** for **water**-thinned adhesives)

IT Paints
(water-thinned; improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as **emulsifiers** for **water**-thinned paints)

IT Plaster
(water-thinned; improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic

silicon-containing polymers as **emulsifiers** for **water**-thinned plaster)

IT 2855-27-8DP, 1,2,4-Trivinylcyclohexane, reaction products with hydrogen polysiloxanes and polyoxyalkylene monoallyl ether 9041-33-2DP, Ethylene oxide-**propylene** oxide **copolymer** monoallyl ether, reaction products with hydrogen-terminated methylsiloxanes and trivinylcyclohexane RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(improving hydrophobicity of silicon-containing vinyl polymers by aqueous manufacture in presence of branched lipophilic silicon-containing polymers as emulsifiers)

L133 ANSWER 5 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:515759 Document No. 141:55706 Process for making and process for converting **polyolefin fibers.** Smit, Leo; Simmelink, Joseph Arnold Paul Maria; Nielaba, Leonard Josef Arnold (DSM IP Assets B.V., Neth.). PCT Int. Appl. WO 2004053212 A1 20040624, 22 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-NL872 20031209. PRIORITY: EP 2002-80143 20021210.

AB The invention relates to a process for making a multifilament polyethylene yarn via a gel-spinning process, wherein a **spin finish** is applied at least once in an amount of 0.1-10% based on the **filament**, to a **filament** that contains less than 50% of solvent; the **spin finish** comprising at least 95% of at least one volatile compound having a b.p. at 0.1 **MPa** pressure of from 30 to 250°; and the **spin finish** is subsequently removed by exposing the **filament** to a temperature of below the melting temperature of the **filament.** With this process a yarn is made that has a very low amount of residues on the surface of the **fibers**, without the need for a washing or extraction step, showing good mech. properties, and very suited for e.g. biomedical applications. The invention further relates to a process for converting **polyolefin fibers** into a semi-finished or end-use product. The invention also concerns a polyethylene yarn and a semi-finished or end-use product obtainable by said processes, as well as to the use of thereof in biomedical

applications.

IT **9002-88-4**, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(**fibers**; process for making **polyolefin fibers** with min. residual finish substance)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

IC ICM D01F006-04
CC 40-2 (Textiles and Fibers)
ST gel **spinning** volatile compd **finishing** **polyolefin** yarn manuf; multi **filament** polyethylene yarn gel **spinning** volatile compd **finishing**

IT Polyoxyalkylenes, uses
RL: REM (Removal or disposal); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(derivs., finish, removal of; process for making **polyolefin fibers** with min. residual finish substance)

IT **Polyolefin fibers**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(process for making **polyolefin fibers** with min. residual finish substance)

IT Alcohols, uses
Ketones, uses
RL: NUU (Other use, unclassified); USES (Uses)
(volatile finish; process for making **polyolefin fibers** with min. residual finish substance)

IT **9002-88-4**, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(**fibers**; process for making **polyolefin fibers** with min. residual finish substance)

IT 25322-68-3D, Polyethylene oxide, derivs.
RL: REM (Removal or disposal); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(finish, removal of; process for making **polyolefin fibers** with min. residual finish substance)

IT 118240-87-2, Isopropanol-water mixture 153523-39-8,

1-Butanol-ethanol-water mixture
RL: NUU (Other use, unclassified); USES (Uses)
(volatile finish; process for making **polyolefin fibers** with min. residual finish substance)

L133 ANSWER 6 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:488372 Document No. 142:199796 Crystallinity, orientation and mechanical property development in melt spinning poly(ethylene-co-octene) **filaments.** Shan, Haifeng; White, James L. (Institute of Polymer Engineering, University of Akron, Akron, OH, 44325, USA). Annual Technical Conference - Society of Plastics Engineers, 62nd(Vol. 2), 2067-2071 (English) 2004. CODEN: ACPED4. ISSN: 0272-5223. Publisher: Society of Plastics Engineers.
AB The structure development in melt spinning of poly(ethylene-co-octene) with different octene contents was studied. The **filaments** are characterized by WAXD, birefringence and **DSC.** Crystal structures of 4 copolymers are determined The Herman-Stein crystalline orientation factors are then calculated The uniaxial mech. properties are also measured.
CC 40-4 (Textiles and Fibers)
IT Birefringence
Crystal structure
Crystallinity
Elongation at break
Tensile strength
(crystallinity and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)
IT **Polyolefin fibers**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(ethylene-octene; **crystallinity** and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)
IT Polymer chains
(orientation; crystallinity and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)
IT 70800-37-2, Ethylene-octene copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(**fibers**; **crystallinity** and orientation and mech. property development in melt spinning poly(ethylene-co-octene) **filaments**)

L133 ANSWER 7 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:385453 Document No. 142:115811 Preliminary test of electroconductive **polyolefin fibers** modified with polyaniline. Wlochowicz, A.; Fryczkowski, R. (Institute of

Textile Engineering and Polymer Materials, University of Bielsko-Biata, Bielsko-Biala, 43-309, Pol.). Fibres & Textiles in Eastern Europe, 11(4), 36-38 (English) 2003. CODEN: FTEEEM. ISSN: 1230-3666. Publisher: Institute of Chemical Fibres.

AB Initial research into methods for obtaining anti-static **fibers** is presented. We used mixts. of **polypropylene**, serving as a polymer matrix, as well as polyaniline (PANI) as a conductive polymer and alkylbenzene sulfonic acid and a protonating agent. The concentration of PANI used in our research varied from 0 to 10%, and that of alkylbenzene sulfonic acid from 0 up to 30%. **Polypropylene** was added to complete the mixture up to 100% **DSC** and WAXS tests were carried out, as were elec. resistance measurements by the four-conductor connection technique. The results showed that in general, the melt mixts. were **fiber**-grade, and of breaking strength partly even 60 **MPa**. Electrocond. values of the order of 10-4 S/cm allowed the **fibers** obtained to be applied in fabrics with anti-static properties.

CC 40-2 (Textiles and Fibers)
Section cross-reference(s): 37, 76

ST **polypropylene fiber** polyaniline alkylbenzene sulfonic acid melting spun; **fiber** elec cond **crystallinity**

IT Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(Eltex P-HY 001P; electroconductive **polyolefin fibers** modified with polyaniline)

IT Breaking strength
Conducting polymers
Crystallinity
Electric conductivity
Melting
Thermal stability
(electroconductive **polyolefin fibers** modified with polyaniline)

IT Polyanilines
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(electroconductive **polyolefin fibers** modified with polyaniline)

IT **Fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(spinning; electroconductive **polyolefin fibers** modified with polyaniline)

IT Polymer morphology
(surface; electroconductive **polyolefin fibers**

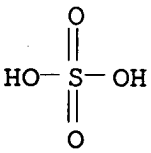
modified with polyaniline)
IT 25233-30-1, Polyaniline
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(electroconductive **polyolefin fibers** modified with polyaniline)
IT 7440-57-5, Gold, uses
RL: DEV (Device component use); USES (Uses)
(electrode; electroconductive **polyolefin fibers** modified with polyaniline)
IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**fiber**; electroconductive **polyolefin fibers** modified with polyaniline)
IT 7727-54-0, Ammonium persulfate
RL: CAT (Catalyst use); USES (Uses)
(polymerization catalyst; electroconductive **polyolefin fibers** modified with polyaniline)
IT 98-11-3D, Benzenesulfonic acid, alkyl derivs.
RL: MOA (Modifier or additive use); USES (Uses)
(protonating agent; electroconductive **polyolefin fibers** modified with polyaniline)

L133 ANSWER 8 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:270153 Document No. 140:288798 **Polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same. Thomsen, Susanne Dahl; Mikkelsen, Torben Laigaard; Moller, Mikael; Stengaard, Flemming Faurby (Fibervisions A/S, Den.). PCT Int. Appl. WO 2004027130 A1 20040401, 30 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-DK600 20030917. PRIORITY: DK 2002-1368 20020917.
AB The **nonwoven** materials with **bulk** ≥30 cm3/g and **resilience** ≥50% is prepared from **polyolefin**-based **fibers** ≥1 features selected from (i) **fiber/fiber friction** ≤600 **g**, (ii) **spin finish** comprising an **aqueous emulsion** of **polysiloxane** with **active content** ≥25%, (iii) **draw ratio** at least 1:1.5,

and (iv) **fiber crystallinity** ≥50%. Thus, a **nonwoven** fabric obtained from **fibers** of **Adstif** HA 840R (**nucleated polypropylene**) treated with Silastol GF 602c (**polysiloxane**) in the drawing process was finished with Synthesin 7490 Fill, showing **bulk** 65 cm3/g and **resiliency** 74%.

IT **74-85-1D, Ethene, polymers** with α -**olefins**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(LLDPE, **fibers; polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
RN 74-85-1 HCAPLUS
CN Ethene (9CI) (CA INDEX NAME)

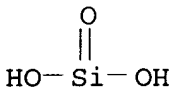
IT **13397-24-5, Gypsum**, uses **14807-96-6, Talc**, uses **135861-56-2**, 1,3:2,4-Bis(3,4-dimethylbenzylidene)**sorbitol**
RL: TEM (Technical or engineered material use); USES (Uses)
(crystal **nucleating agents; polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
RN 13397-24-5 HCAPLUS
CN Gypsum (Ca(SO4).2H2O) (9CI) (CA INDEX NAME)



● Ca

●2 H_2O

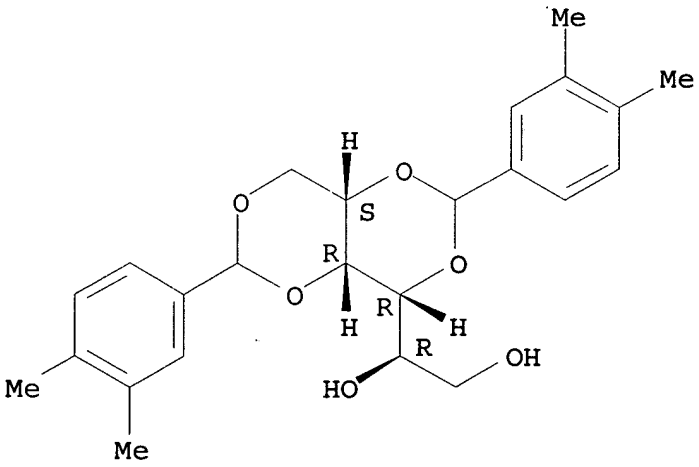
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

RN 135861-56-2 HCAPLUS
CN D-Glucitol, 1,3:2,4-bis-O-[(3,4-dimethylphenyl)methylene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **9002-88-4**, Polyethylene **26063-22-9**, **Polypropylene, syndiotactic**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fibers; polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 26063-22-9 HCAPLUS
CN 1-Propene, homopolymer, syndiotactic (9CI) (CA INDEX NAME)

CM 1

CRN 115-07-1
CMF C3 H6

$H_3C{-}CH{=}CH_2$

IC ICM D01F006-04
ICS D01F006-30; D01F006-46; D04H001-00; D06M015-37; D06M015-643; C08F010-00
CC 40-10 (Textiles and Fibers)
ST **nonwoven** fabric **polyolefin fiber**
bulk resilience; **polysiloxane**
spin finish polyolefin fiber
IT **Polysiloxanes**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(Silastol GF 602c, finishing agent; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
IT Silicone rubber, uses
RL: NUU (Other use, unclassified); USES (Uses)
(Synthesin 7490 Fill, finishing agent; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
IT Fabric finishing
(agents; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)
IT **Chalk**
Dendritic polymers
Kaolin, uses
Mica-group minerals, uses
Silicates, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(crystal **nucleating agents**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ethylene copolymers; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ethylene; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT Antistatic agents
Crystal **nucleating agents**
Nonwoven fabrics
(**polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT **Polyolefin fibers**
Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT Carboxylic acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(salts, crystal **nucleating agents**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT 25085-53-4, **Adstif** HA 840R
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**Adstif** HA 840R, **nucleated**, **fiber**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT **74-85-1D**, **Ethene**, **polymers** with α **-olefins**

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(LLDPE, **fibers**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT 50-70-4D, **D-Sorbitol**, derivs. **13397-24-5**, **Gypsum**, uses **14807-96-6**, **Talc**, uses **135861-56-2**, 1,3:2,4-Bis(3,4-dimethylbenzylidene) **sorbitol**
RL: TEM (Technical or engineered material use); USES (Uses)
(crystal **nucleating agents**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT **9002-88-4**, Polyethylene **26063-22-9**, **Polypropylene, syndiotactic**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fibers**; **polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

IT 581798-19-8, Lurol PP 920
RL: NUU (Other use, unclassified); USES (Uses)
(**polyolefin fibers** and **nonwoven** fabrics with high **bulk** and **resilience** preparing from the same)

L133 ANSWER 9 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:998542 Document No. 141:208456 Effects of on-line melt blending of **polypropylene** with polyamide 6 on the **bulk** and strength of the resulting BCF yarn. Tavanai, Hossein; Morshed, Mohammad; Hosseini, Seyed Majid (Textile Engineering Department, Isfahan University of Technology, Esfahan, 84156, Iran). Iranian Polymer Journal, 12(5), 421-430 (English) 2003. CODEN: IPJOFF. ISSN: 1026-1265. Publisher: Iran Polymer and Petrochemical Institute.

AB **Polypropylene filament** yarns, when compared with polyethyleneterephthalate and polyamide yarns have lower stretchability after being false twist textured. To overcome this deficiency, other researchers have tried to lower the degree of **crystallinity** of this **fiber** by either tension annealing or blending it with polyethyleneterephthalate and polystyrene. These phys. or chemical modifications have not yet achieved a satisfactory level of enhancement of the texture-ability of **polypropylene**. Considering the importance of BCF **polypropylene** yarns, in this research, the effect of

blending **polypropylene** with 12.5 and 25 % of polyamide 6 on the **bulk** of the final **bulked** continuous **filament** (BCF) yarn has been investigated. The results show that although both crimp contraction and crimp **modulus** increase with the temperature and pressure of hot air during texturing, but blending **polypropylene** with even 25% of polyamide 6 does not enhance the texture-ability of BCF yarns. Also, the reduction in the crystallinity of the yarns does not lead to any improvement in the texture-ability of the **polypropylene** BCF yarns.

CC 40-4 (Textiles and Fibers)
Section cross-reference(s): 36

ST **polypropylene** polyamide blend yarn property crystallinity texture ability

IT Contraction (mechanical)
Modulus (stress-strain)
(crimp; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Yarns
(effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Polyamides, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Polymer blends
Polypropene **fibers**, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Crystallinity
(effects of online melt blending of **polypropylene** with polyamide 6 on property of resulting BCF yarn)

IT **Fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(spinning; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Microstructure
(texture-ability; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT Pressure
Temperature

(variation; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT 108-31-6, Maleic anhydride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(compatibilizer; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT 25038-54-4, Polyamide 6, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT 25085-53-4
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**fibers**; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

IT 743436-27-3, Rolfil PN 80
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(**spin finish**; effects of online melt blending of **polypropylene** with polyamide 6 on **bulk** and strength of resulting BCF yarn)

L133 ANSWER 10 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:801005 Document No. 140:60685 Morphology and mechanical properties of crosslinked PE/PE composite materials. Ratner, S.; Weinberg, A.; Marom, G. (Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel). Polymer Composites, 24(3), 422-427 (English) 2003. CODEN: PCOMDI. ISSN: 0272-8397. Publisher: Society of Plastics Engineers.

AB Novel peroxide-crosslinked composite materials based on ultra high mol. weight polyethylene **fibers** were studied in comparison with their non-crosslinked homologues. Two material types were prepared, either by embedding the **fibers** in a low-d. polyethylene matrix, or by compacting neat **fibers.** The resulting composites were analyzed by **differential scanning calorimetry**, focusing on the typical double-melting endotherm of the PE **fibers**, and by **X-ray diffraction**, concentrating on the characteristic weak 010 reflection of the triclinic phase in the **fiber.** Mech. testing of unidirectional composites showed crosslinking to be highly advantageous, yielding significant

property enhancement, e.g., increasing the **flexural modulus** from 28 to 33 GPa in the compacted **fiber** composite. The advantage results from the crosslinking mechanism, entailing only partial melting that is confined to the **fiber** skin, while retaining a significant degree of **crystallinity** in the **fiber**.

IT **9002-88-4**, Polyethylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(low-d.; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 38-3 (Plastics Fabrication and Uses)
ST morphol UHMWPE **fiber** crosslinked LDPE composite
IT **Polyolefin fibers**
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ethylene, Dyneema SK-75; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)
IT Mechanical properties
Polymer morphology
Young's **modulus**
(morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)
IT **9002-88-4**, Polyethylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(low-d.; morphol. and mech. properties of crosslinked UHMWPE/LDPE composite)

L133 ANSWER 11 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:713624 Document No. 139:308782 Studies on the preparation of immersion-type **polypropylene** fragrant **fiber**. II. The supermolecular structure of the matrix **fiber** and its sorption properties for fragrant molecules. Wang, Bing; Zhao, Jiasen (School of Material Science and Chemical Engineering, Tianjin Polytechnic University, Tianjin, 300160, Peop. Rep. China). Journal of Applied Polymer Science, 90(4), 973-981 (English) 2003. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: John Wiley & Sons, Inc..
AB The supermol. structure and mech. properties of a matrix

fiber were investigated with **differential scanning calorimetry**, wide-angle **X-ray diffraction**, sonic velocity instrumentation, and **fiber** electronic cerimetry. The results indicated that the apparent crystallinity of the matrix **fiber**, the **crystallinity** of the **polypropylene** (PP) component, and the mech. properties of the matrix **fiber** were all affected by ethylene-vinyl acetate copolymer (EVA). Drawing increased the orientation and tensile strength of the matrix **fiber** at the proper temperature and ratio of PP to EVA. The matrix **fiber**, having good mech. properties, was placed in a fragrance-alc. solution or an essential oil for the preparation of a fragrant **fiber**. The fragrance property of the **fiber** was determined with generally a method using slow release time as a certain standard, and the results showed that the fragrance property of the **fiber** was good.

CC 40-4 (Textiles and Fibers)
Section cross-reference(s): 62

ST **polypropylene fiber** morphol **crystallinity** sorption fragrant mol; ethylene vinyl acetate **copolymer polypropylene fiber** property

IT **Polyolefin fibers**
Synthetic polymeric **fibers**, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(ethylene-vinyl acetate; supermol. structure of **polypropylene**-ethylene-vinyl acetate copolymer blend **fiber** and its sorption properties for fragrant mols.)

IT Adsorption
Breaking strength
Crystallinity
Elongation at break
Perfumes
Polymer morphology
Yield strength
(supermol. structure of **polypropylene**-ethylene-vinyl acetate copolymer blend **fiber** and its sorption properties for fragrant mols.)

IT Polypropene **fibers**, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(supermol. structure of **polypropylene**-ethylene-vinyl acetate copolymer blend **fiber** and its sorption properties for fragrant mols.)

IT 140-11-4, Benzyl acetate
RL: COS (Cosmetic use); PEP (Physical, engineering or chemical process); PYP (Physical process); BIOL (Biological study); PROC (Process); USES (Uses)
(perfume; supermol. structure of **polypropylene**-ethylene-vinyl acetate copolymer blend **fiber** and its

sorption properties for fragrant mols.)
IT 24937-78-8, Ethylene-vinyl acetate copolymer 25085-53-4, **Isotactic polypropylene**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(supermol. structure of **polypropylene**-ethylene-vinyl acetate copolymer blend **fiber** and its sorption properties for fragrant mols.)

L133 ANSWER 12 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:425650 Document No. 140:164832 Study on in-situ **fiber** reinforced composites: **polyolefin**/polycaprolactone blend. Semba, T.; Kitagawa, K.; Hamada, H. (Department of Applied Chemistry, Kyoto Municipal Institute for Industrial Research, Shimogyo-ku, Kyoto, 600-8813, Japan). Design, Manufacturing and Applications of Composites, Proceedings of the Joint Canada-Japan Workshop on Composites, 4th, Vancouver, BC, Canada, Sept. 19-21, 2002, Meeting Date 2002, 176-183. Editor(s): Lo, J. CRC Press LLC: Boca Raton, Fla. ISBN: 0-8493-1534-4 (English) 2003. CODEN: 69DYWA.
AB In-situ **fiber** reinforced composites were manufactured in polymer processing process with shear and elongational flows. In this study, the in-situ **fiber** reinforced composite was prepared by blending **polypropylene** (PP) and polycaprolactone (PCL). This work proved that the in-situ **fiber** formation in PP/PCL blends were due to a shear and elongational stress. The PP/PCL sheets were manufactured by use of single screw extruder equipped with slit type die which could be applied higher shear and elongational stresses and heat press machine with lower shear and elongational stresses. The mech. properties of the extrusion sheets were considerably improved in contrast with compressive sheets attributed to the in-situ dispersed long **fiber** phase in extrusion processing. The **DSC** curves made clear the difference of crystallization between the **fiber** and spherical shape dispersive components.
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37
ST insitu **fiber** reinforced composite formation **polypropylene** polycaprolactone blend
IT Polyesters, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(caprolactone-based; in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT Flow
(elongational; in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and

properties of their extruded and press sheets)
IT **Crystallinity**
Fusion enthalpy
Polymer morphology
Stress-strain relationship
Tensile strength
(in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT Polymer blends
Polypropene **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT Flow
(shear; in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(Polypro J 900GP; in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT 24980-41-4, ε-Caprolactone homopolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(assumed monomers; in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)
IT 25248-42-4, Celgreen PH 7
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(in-situ **fiber** reinforced composites formation via blending **polypropylene** and polycaprolactone under shear and elongational flows and properties of their extruded and press sheets)

L133 ANSWER 13 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2003:156493 Document No. 138:370191 Estimating crystallinity in high density polyethylene **fibers** using online Raman

spectroscopy. Paradkar, R. P.; Sakhalkar, S. S.; He, X.; Ellison, M. S. (Center For Advanced Engineering Fibers and Films, and The School of Materials Science and Engineering, Clemson University, Clemson, SC, 29634-0971, USA). Journal of Applied Polymer Science, 88(2), 545-549 (English) 2003. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: John Wiley & Sons, Inc..

AB Online Raman spectra, obtained at different points along the spin line during pilot-scale nonisothermal melt spinning of high-d. polyethylene (HDPE) **fibers**, are presented for the first time. The fraction of the crystalline phase corresponding to each spectrum was determined from the normalized integrated intensity of the 1418 cm-1 Raman band. It is well established that this band represents the orthorhombic crystalline phase in polyethylene. The ests. of percent crystallinity obtained from decomposition of the Raman spectrum were compared with the percent crystallinity from **differential scanning calorimetry** (**DSC**) measurements. Online Raman spectroscopy can be successfully used to monitor the development of **crystallinity** in HDPE **fibers** as a function of distance from the spinneret.

IT **9002-88-4P**, Polyethylene
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(high-d., **fiber**; estimating **crystallinity** in spinning of high-d. polyethylene **fibers** using online Raman spectroscopy)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-2 (Textiles and Fibers)

ST **crystallinity** spinning polyethylene **fiber**; HDPE **fiber** spinning **crystallinity** Raman spectroscopy

IT Crystallinity
(estimating crystallinity in spinning of high-d. polyethylene **fibers** using online Raman spectroscopy)

IT **Polyolefin fibers**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(ethylene; estimating **crystallinity** in spinning of high-d.

polyethylene **fibers** using online Raman spectroscopy)

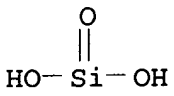
IT **9002-88-4P**, Polyethylene
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(high-d., **fiber**; estimating **crystallinity** in spinning of high-d. polyethylene **fibers** using online Raman spectroscopy)

L133 ANSWER 14 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2002:927732 Document No. 138:14348 Optical **fiber** cable buffer tube of dimensionally stable **polyolefin.**
Castellani, Luca; Maritano, Mauro; Brandi, Giovanni (Pirelli Cavi E Sistemi S.P.A, Italy). PCT Int. Appl. WO 2002097503 A1 20021205, 36 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-EP5536 20020521. PRIORITY: EP 2001-113193 20010530; US 2001-PV294574 20010601.

AB The buffer tubes for optical **fibers** comprise a first crystalline **polyolefin**, i.e., **propylene**-alkene **copolymers** and a second crystalline **polyolefin**, i.e., **polypropylene** or ethylene-**propylene** **copolymer**, and 0.05-1% **nucleating agent**, selected from inorg. salts, **D-sorbitol** derivs., carboxylic acids and their salts, **talc**, and mixts. A mixture of crystalline **propylene**-butylene **copolymers** (Clyrell 831, melt flow index (MI) 1.8 g/10 min and Moplen Ultra 925 MI of 10 g/min and containing phenolic stabilizer), **talc**, and Millad 3988 (**sorbitol** derivative) **nucleating agent** was mixed at 190° and extruded to obtain tubes of 3.5 mm outer diameter The tubes can be extruded at low temps. and show good dimensional stability, no deformation, and high transparency, and are suitable for land and undersea deployment.

IT **14807-96-6**, **Talc**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)

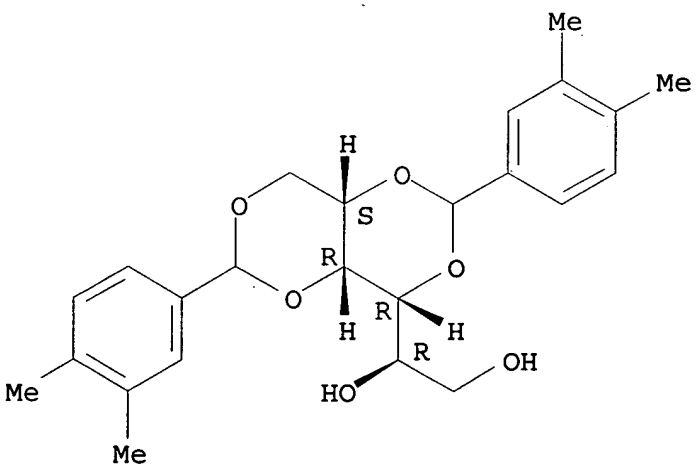
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IT **135861-56-2**, Millad 3988
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**nucleating agent**; extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)
RN 135861-56-2 HCAPLUS
CN D-Glucitol, 1,3:2,4-bis-O-[(3,4-dimethylphenyl)methylene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IC ICM G02B006-44
ICS C08L023-14; C08F210-06
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 73
ST **polypropylene polyolefin** buffer tube optical **fiber** cable; **nucleating agent**

sorbitol deriv **propylene copolymer** tube

IT Crystal **nucleating agents**
Extrusion of plastics and rubbers
Optical cables
Pipes and Tubes
(extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)

IT 29160-13-2, 1-Butene-**propylene copolymer**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(crystalline, Clyrell 831RCXP and Moplen Ultra 925RCXP; extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)

IT **14807-96-6, Talc**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)

IT **135861-56-2**, Millad 3988
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**nucleating agent**; extruded tubes of crystalline **polypropylene-polyolefin** with good dimensional stability and transparency for buffer casing of optical **fiber** cables)

L133 ANSWER 15 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2002:727406 Document No. 137:233957 Manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling. Ito, Makoto; Yamashita, Kenji (Nippon Ester Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002275731 A2 20020925, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-80612 20010321.

AB The polyester **filaments** (A) are prepared by the steps comprising the steps of (a) melt spinning a polyester, (b) cooling and solidifying the **fibers**, and (c) coating the **fibers** with lubricants tp form **fibers** with a lubricant content to cause degree of swelling [[(E2-E1)/E1]100; E1 = natural stretching elongation of the nonlubricated undrawn yarns in %; E2 = natural stretching elongation of the lubricated undrawn

yarns in %] of the **fibers** ≥5% and give **filaments** with initial **modulus** ≤50 cN/**dtex** and elastic recovery ≥50% at stretch 15%, or A polyester **filaments** are prepared by the above steps to give **filaments** with lubricant content 0.25-1.0% (on **filament**). Poly(butylene terephthalate) was melt spun, coated with an **aqueous emulsion** containing 50% polyethylene-**polypropylene** glycol (I) with mol. **wt**. (Mw) 1000 and 42% I with Mw 500, and wound to give a package with **weight** kg and comprising **fibers** with lubricant content 0.50% and degree of swelling 8.5% and showing unwinding tension of the outer layer 1.5 cN, unwinding tension of the middle layer 2.0 cN, and unwinding tension of the inner layer 3.5 cN. The spun **fibers** were drawn at 70° and heat-treated 110° to give yarns with tensile strength 2.9 cN/**dtex**, elongation 35%, initial **modulus** 38 cN/**dtex**, and elastic recovery 65%.

IC ICM D01F006-62
ICS D01F006-62

CC 40-2 (Textiles and Fibers)

ST polybutylene terephthalate **fiber spinning** lubricant **finishing** unwinding property enhancement; polytrimethylene terephthalate **fiber spinning** lubricant **finishing** unwinding property enhancement; polyester **fiber spinning** lubricant **finishing** unwinding property enhancement

IT Polyester **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(butanediol-terephthalic acid; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ethers with castor oil; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Castor oil
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ethoxylated; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments**

with specified degree of swelling)

IT Hydrocarbon oils
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(lubricant; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Lubricants
(manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Polyester **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT Polyester **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(terephthalic acid-trimethylene glycol; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT 24968-12-5, Poly(butylene terephthalate) 26062-94-2, Poly(butylene terephthalate) 26546-03-2, Terephthalic acid-trimethylene glycol copolymer, sru 26590-75-0, Terephthalic acid-trimethylene glycol copolymer
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

IT 9002-92-0, Polyoxyethylene lauryl ether 9003-11-6, Polyethylene-**polypropylene** glycol 19149-85-0, Oleyl laurate 31565-37-4, Isotridecyl stearate
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)

(lubricant; manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

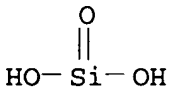
IT 25322-68-3D, Polyethylene glycol, ethers with castor oil
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(manufacture of polyester **filaments** with low **modulus** and high elastic recovery and good winding and unwinding properties by coating the spun polyester **filaments** with lubricants to form **filaments** with specified degree of swelling)

L133 ANSWER 16 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2002:503288 Document No. 137:81352 Polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks. Hofmann, Achim; Radden, Peter; Reil, Frank; Reuschel, Gerhard; Sparenberg, Bernd (Ticona G.m.b.H., Germany). Ger. Offen. DE 10064656 A1 20020704, 8 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2000-10064656 20001222.

AB A casing material, especially for fuel cell stacks, with high thermal stability and low gas permeability coeffs., consist of a layer of liquid crystalline polymer and at least one layer of a polyarylene sulfide, preferably poly-p-phenylene sulfide. Suitable liquid crystalline polymers can include polyethylene terephthalate, poly(p-phenyleneisophthalamide), poly(m-phenyleneisophthalamide), polyester carbonates, polyazomethines, polyarylates, polythioesters, polyester polyamides, and polyester polyimides. The material, which can be used in combination with other plastics or metals, can be combined or reinforced with a number of other components, including fillers, reinforcing **fibers**, graft copolymers, antioxidants, **nucleation agents**, mold-releasing agents, etc.

IT **14807-96-6, Talc**, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IT **9002-88-4**, Polyethylene
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ultrahigh-d., plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

IC ICM H01M008-02
ICS F17C001-16
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(aramid **fiber**-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(carbon **fiber**-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)
IT Chalk
Mica-group minerals, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material

for fuel cell stacks)

IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(glass **fiber**-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT **Polyolefins**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(graft polymers with acrylonitrile-styrene copolymer, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT **Silicates**, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(layered, filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT Reinforced plastics
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(mineral **fiber**-reinforced, housing materials containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT 471-34-1, Calcium carbonate, uses 1318-93-0, Montmorillonite, uses 7631-86-9, Silicon dioxide, uses 13983-17-0, Wollastonite **14807-96-6, Talc**, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler, plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT 9002-84-0, PTFE 9003-54-7D, Acrylonitrile-styrene copolymer, graft **copolymers** with α **-olefins**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

IT **9002-88-4**, Polyethylene
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(ultrahigh-d., plastic composites containing; polythiophenylene-based gas-impermeable, high-thermal-stability polymer housing material for fuel cell stacks)

L133 ANSWER 17 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:746858 Document No. 134:253567 Technological aspects of additive

use for **polyolefin fiber** production. Grigoriu, Aurelia; Grigoriu, George Ervant ("Gh. Asachi" Technical University, Iasi, Rom.). Plastics Engineering (New York), 59(Handbook of Polyolefins (2nd Edition)), 825-839 (English) 2000. CODEN: PLENEZ. ISSN: 1040-2527. Publisher: Marcel Dekker, Inc..

AB A review with 115 refs. Stabilizers, flame retardants, biocides, and **spin finishing** additives for **polyolefin fibers** were introduced. Requirements of **polyolefin fiber** additives were discussed.

CC 40-0 (Textiles and Fibers)

ST review **polyolefin fiber** additive

IT Biocides
Fireproofing agents
Stabilizing agents
(technol. aspects of additive use for **polyolefin fiber** production)

IT **Polyolefin fibers**
RL: IMF (Industrial manufacture); PREP (Preparation)
(technol. aspects of additive use for **polyolefin fiber** production)

L133 ANSWER 18 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN

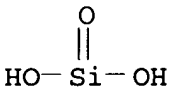
2000:746338 Document No. 133:267592 **Fiber**-reinforced polyethylene terephthalate (PET) composition. Yeum, Joon-Taek; Choe, Byung-Kil; Sonn, Young-Ho (Cheil Synthetics, Inc., S. Korea). Repub. Korea KR 132378 B1 19980413, No pp. given (Korean). CODEN: KRXXFC. APPLICATION: KR 1994-18181 19940726.

AB The title compns. with improved plasticity and mold release properties comprise PET having inherent viscosity of 0.5-0.9 100, inorg. filler having particle diameter 30-500 μm, e.g., **mica**, 0.1-40, **fiber** reinforcing agent, e.g., glass **fiber** and carbon **fiber** 0.1-30, inorg. **nucleating agent** with high dispersibility, e.g., silica, kaolin or **talc** 0.1-10, a polyester resin with low mol. weight or a **polyolefin** resin 0.5-30, and Na, Mg or Zn salt of **copolymer** of α **-olefin** hydrocarbon and α,β-unsatd. carboxylic acid 0.1-10 parts.

IT **14807-96-6, Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; **fiber**-reinforced polyethylene terephthalate composition)

RN 14807-96-6 HCAPLUS

CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
CC 37-6 (Plastics Manufacture and Processing)
ST polyethylene terephthalate **fiber** reinforced compn plasticity mold release
IT Polyesters, uses
Polymer blends
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(**fiber**-reinforced polyethylene terephthalate composition)
IT Carbon **fibers**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**fiber**-reinforced polyethylene terephthalate composition)
IT **Mica**-group minerals, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(fillers; **fiber**-reinforced polyethylene terephthalate composition)
IT **Polyolefins**
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(low-mol. weight; **fiber**-reinforced polyethylene terephthalate composition containing)
IT Fillers
(**mica**; **fiber**-reinforced polyethylene terephthalate composition)
IT Kaolin, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; **fiber**-reinforced polyethylene terephthalate composition)
IT Glass **fibers**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reinforcing agents; **fiber**-reinforced polyethylene terephthalate composition)
IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(unsatd., α,β-, **copolymers** with α **-olefins**, **metal** salts; **fiber**-reinforced polyethylene terephthalate composition)

IT Alkenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(α-, copolymers with unsatd. **carboxylic acids, metal salts; fiber** -reinforced polyethylene terephthalate composition)
IT 25038-59-9, Poly(ethylene terephthalate), uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(**fiber**-reinforced polyethylene terephthalate composition)
IT 7631-86-9, Silica, uses **14807-96-6**, **Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; **fiber**-reinforced polyethylene terephthalate composition)

L133 ANSWER 19 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:615179 Document No. 133:194497 Preliminary study on domestic UHMWPE **fiber.** Hu, Zuming; Yu, Junrong; Liu, Zhaofeng; Lin, Jiguang (State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, Donghua University, Shanghai, 200051, Peop. Rep. China). Hecheng Xianwei Gongye, 23(4), 13-15 (Chinese) 2000. CODEN: HXIGEU. ISSN: 1001-0041. Publisher: Yueyang Shiyou Huagong Zhongchang Yanjiuyuan.
AB The structure and mech. properties of domestic UHMWPE **fiber** were studied by mech. property tester, acousticmeter, crystalline orientation tester, WAXD and **DSC**, and compared with those of imported UHMWPE **fiber.** The mech. properties and crystalline structure of domestic UHMWPE **fiber** were similar to those of imported **fiber**, the elongation at break was higher, and the amorphous orientation lower. The domestic **fiber** can be drawn at higher ratio to achieve better mech. properties.
IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(**fibers**; crystalline structure, mech. and thermal properties of UHMWPE **fiber** made in China)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-4 (Textiles and Fibers)
ST UHMWPE **fiber** mech thermal **crystallinity**;

polyethylene **fiber** mech
IT Crystal structure
Crystallinity
Fusion enthalpy
(crystalline structure, mech. and thermal properties of UHMWPE **fiber** made in China)
IT **Polyolefin fibers**
RL: PRP (Properties)
(ethylene; crystalline structure, mech. and thermal properties of UHMWPE **fiber** made in China)
IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(**fibers**; crystalline structure, mech. and thermal properties of UHMWPE **fiber** made in China)

L133 ANSWER 20 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
2000:177063 Document No. 132:309630 Structural changes of gel drawn, ultra-high molecular weight polyethylene **fibers** with kerosene as a solvent. Xiao, C. F.; Zhang, Y. F.; An, S. L.; Jia, G. X. (Department of Materials Science, Tianjin Institute of Textile Science and Technology, Tianjin, 300160, Peop. Rep. China). Polymer Engineering and Science, 40(1), 238-246 (English) 2000. CODEN: PYESAZ. ISSN: 0032-3888. Publisher: Society of Plastics Engineers.
AB **Fibers** of ultra-high mol. weight polyethylene (UHMW-PE) were prepared with the gel **fiber** drawing method. The solvent and extraction solvent used were a general kerosene and gasoline, resp. The structural changes in the **fibers** during the drawing process were examined by wide-angle **X-ray diffraction** (WAXD), polarizing optical microscopy (POM), and a d. gradient column. During the drawing process, a folded chain structure transformed into an extended-chain in the **fiber**, the d. of the **fibers** increased, and the dimensions of the orthorhombic crystallite size tended towards a narrow distribution simultaneously with the increasing **draw ratio.** The orthorhombic unit cell dimensions for the **fiber** with a **draw ratio** of 40 were a = 0.732 nm, b = 0.491 nm, and c = 0.254 nm. In the **fiber** with a **draw ratio** of about 40, kink bands were observed It is suggested they correspond with the local crystalline slip due to the effect of winding tension. Also, the smaller the winding roller diameter, the more clearly they can be observed In this work, the effect of the existence of kink bands on the structures of orientation and **crystallinity** of **fiber bulk** was not observed
IT **9002-88-4**, Polyethylene
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(structural changes of gel drawn, ultra-high mol. weight

polyethylene **fibers** with kerosene as solvent)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-4 (Textiles and Fibers)
ST polyethylene **fiber** structure **crystallinity**; gel drawn polyethylene **fiber**
IT **Polyolefin fibers**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(ethylene; structural changes of gel drawn, ultra-high mol. weight polyethylene **fibers** with kerosene as solvent)
IT Crystallinity
Polymer chains
(structural changes of gel drawn, ultra-high mol. weight polyethylene **fibers** with kerosene as solvent)
IT Kerosene
RL: NUU (Other use, unclassified); USES (Uses)
(structural changes of gel drawn, ultra-high mol. weight polyethylene **fibers** with kerosene as solvent)
IT **9002-88-4**, Polyethylene
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(structural changes of gel drawn, ultra-high mol. weight polyethylene **fibers** with kerosene as solvent)

L133 ANSWER 21 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1999:631331 Document No. 131:244556 Manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability. Yokoyama, Masao; Kamata, Shigeyoshi; Nakano, Akira (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 11269716 A2 19991005 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-68179 19980318.
AB Synthetic **fiber** tow is prepared by melt **spinning** polymers, **finishing** the **fibers** to form a tow with H2O content (S) 15-35%, and taking up the tow using a take-up roll to cause ratio of denier (D) of the tow to width (W) of the tow on the take-up roll in m 1x106-3x106. A polyester was melt spun,

coated with an **aqueous dispersion** containing 0.3% alkyl phosphate salt to form a tow with D 15x104 denier and S 30%, taken up using a take-up roll (D/W 2.73x106), and fed to a container for a certain period. The spun tow was sep. taken up from 25 containers and drawn together to give **fibers** with good drawability and low amount of residual waste yarns in the container.

IT **9002-88-4**, Polyethylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

IC ICM D01D005-096
ICS D01D007-00; D01F006-06; D01F006-60; D01F006-62; D01F006-76
CC 40-2 (Textiles and Fibers)
ST polyester **fiber** tow manuf drawing waste redn; polyamide **fiber** tow manuf drawing waste redn; polyethylene **fiber** tow manuf drawing waste redn; **polypropylene** **fiber** tow manuf drawing waste redn; **fiber** synthetic tow manuf drawing waste redn

IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ethylene; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)

IT Polyamide **fibers**, uses
Polyester **fibers**, uses
Polypropene **fibers**, uses
Synthetic polymeric **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of synthetic **fiber** tow with reduced yarn

slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)

IT Synthetic polymeric **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyphenyls; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)

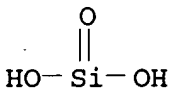
IT **9002-88-4**, Polyethylene 9033-83-4, Polyphenylene 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; manufacture of synthetic **fiber** tow with reduced yarn slippage on take-up rolls for reduced residual waste yarn formation during the drawing step and good drawability)

L133 ANSWER 22 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1999:421143 Document No. 131:103165 Polyketone compositions for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability. Yamauchi, Koji; Kanomata, Akinori; Inoue, Toshihide (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 11181273 A2 19990706 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-355827 19971224.

AB Title connectors are obtained by molding compns. comprising polyketones consisting of x mol% -CH2CH2CO- and y mol% -CH2C(Me)HCO- (y/x 0.01-0.10), optionally **fibrous** and/or nonfibrous fillers, rubber powders (Tg ≤20°) dispersed in the polyketones, epoxides, and **nucleating agents.** Thus, 100 parts polyketone prepared from ethylene, propylene and CO was mixed with 30 parts glass **fiber**, and molded to give a test piece showing good Izod impact strength 80 J/m, tensile strength retention 60% after treating with 50% long life coolant solution for 500 h at 130°, and good dimensional stability.

IT **14807-96-6**, LMS 300, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)

RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)

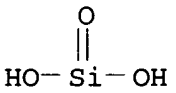


●3/4 Mg

IC ICM C08L073-00
ICS C08G067-02; C08K003-00; C08K003-24; C08K003-34; C08K003-36; C08K005-098; C08K005-15; C08K005-42; C08K007-02; C08K013-00; C08L021-00; C08L023-16; C08L063-00; F01P003-00; F01P005-10
CC 38-3 (Plastics Fabrication and Uses)
ST polyketone automobile water pump connector strength; carbon monoxide ethylene **propylene copolymer** heat resistance; coolant resistance polyketone water pump connector; dimensional stability polyketone water pump connector
IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT Carbonates, uses
Clays, uses
Kaolin, uses
Mica-group minerals, uses
Sulfonates
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agents**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT Crystal **nucleating agents**
(polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT Epoxides
Polyolefin rubber
RL: MOA (Modifier or additive use); USES (Uses)
(polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(salts, **nucleating agents**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)

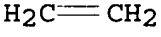
IT **14807-96-6**, LMS 300, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agent**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT 7631-86-9, Silica, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agents**; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT 88995-51-1P, Carbon monoxide-ethylene-**propylene copolymer**
RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PREP (Preparation); USES (Uses)
(polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)
IT 26061-90-5, 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with **ethene**
RL: MOA (Modifier or additive use); USES (Uses)
(rubber; polyketone compns. for water pump connectors of automobiles with high strength and good heat and coolant resistance and dimensional stability)

L133 ANSWER 23 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1999:157067 Document No. 130:224178 Parts in optical **fiber** cables using **polyolefins.** Risch, Brian G.; Holder, James D. (Alcatel Alsthom Cie. Generale d'Electricite, Fr.). Jpn. Kokai Tokkyo Koho JP 11064695 A2 19990305 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-147510 19980528. PRIORITY: US 1997-891978 19970710.
AB Title cable parts, preferably (multilayer) buffer tubes, fillers rods, jackets, and slots, are made of **polyolefins** having melt flow index (MFI) is more than .apprx.3. Alternatively, the cable parts are made of ethylene-**propylene copolymers** having MFI .apprx.3-10 and containing 0.05-1% **nucleating agents.** The parts show improved moldability associated with improved mech. strength, compression resistance, crystallinity, and solvent resistance.
IT **14807-96-6**, **Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; **polyolefins** with high melting flow index for parts in optical **fiber** cables)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

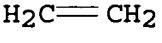
IT **74-85-1D**, Ethylene, **polymers** with α **-olefins**
RL: DEV (Device component use); USES (Uses)
(linear-low-d.; **polyolefins** with high melting flow index for parts in optical **fiber** cables)
RN 74-85-1 HCAPLUS
CN Ethene (9CI) (CA INDEX NAME)



IT **9002-88-4**, Polyethylene
RL: DEV (Device component use); USES (Uses)
(**polyolefins** with high melting flow index for parts in optical **fiber** cables)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



IC ICM G02B006-44
ICS C01B033-22; C01F011-18; C08K003-04; C08K003-26; C08K003-34; C08K003-36; C08K005-098; C08L023-02; C08L023-06; C08L023-12; C08L023-16
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73
ST optical **fiber** cable part **polyolefin**; high melt flow index **polyolefin** cable; ethylene **propylene copolymer nucleating agent**
IT Carboxylic acids, uses

RL: MOA (Modifier or additive use); USES (Uses)
(alicyclic; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(aliphatic, **nucleating agents**; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Carboxylic acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(aromatic, **nucleating agents**; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Fillers
(carbon black; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Plastic foams
RL: DEV (Device component use); USES (Uses)
(cellular **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Carbon black
Kaolin
Mica-group minerals
(fillers; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Fillers
(kaolin; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Fillers
(**mica**; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Optical cables
(**polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT Linear low density polyethylenes
RL: DEV (Device component use); USES (Uses)
(**polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT **Polyolefins**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT 532-32-1, Sodium benzoate 582-25-2, Potassium benzoate 822-16-2, Sodium stearate
RL: MOA (Modifier or additive use); USES (Uses)
(alicyclic; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT 471-34-1, Calcium carbonate, uses 7631-86-9, Silica, uses

14807-96-6, **Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT **74-85-1D**, Ethylene, **polymers** with α **-olefins**
RL: DEV (Device component use); USES (Uses)
(linear-low-d.; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT 10051-44-2, Sodium caproate 14047-56-4
RL: MOA (Modifier or additive use); USES (Uses)
(**nucleating agents**; **polyolefins** with high melting flow index for parts in optical **fiber** cables)

IT **9002-88-4**, Polyethylene 9003-07-0, **Polypropylene**
9010-79-1, Ethylene-**propylene copolymer**
25085-53-4, **Isotactic polypropylene**
RL: DEV (Device component use); USES (Uses)
(**polyolefins** with high melting flow index for parts in optical **fiber** cables)

L133 ANSWER 24 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1999:126936 Document No. 130:169030 Manufacturing **olefin** (co)**polymers** with controlled molecular weight. Ushioda, Tsutomu; Saito, Jun; Tsutsui, Mototake; Yasuda, Yoshitoyo; Fujita, Hiroyuki; Uwai, Toshihiro; Ohgi, Yoshiyuki; Adachi, Minoru; Morimoto, Yoshitaka; Hirose, Taketo; Kugimiya, Youichi; Taniguchi, Masahiko; Kuramochi, Hitoshi (Chisso Corporation, Japan). PCT Int. Appl. WO 9907747 A1 19990218, 88 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1998-JP3597 19980812. PRIORITY: JP 1997-217899 19970812; JP 1997-218756 19970813; JP 1997-251689 19970917; JP 1997-273577 19970919.

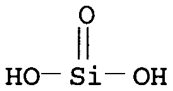
AB **Olefin** (co)**polymers** with controlled mol. weight from 30,000 to 10,000,000 and excellent rigidity, heat resistance and transparence, usable for various industrial parts, containers, films, sheets, **fibers** are manufactured by use of specific catalysts and selecting polymerization time. Thus, a catalyst 100 g from dimethylsilyl(2,3,5-trimethylcyclopentadienyl)(2',4',5'-trimethylcyclopentadienyl)zirconium dichloride 0.39 g, methylaluminoxane 267 mmol and silica 10 g was mixed with n-hexane 80 mL, trimethylaluminum 0.5 mmol and propylene was supplied and

polymerized to give a **polypropylene** powder 15.5 g, showing MFR 93 g/10 min., mol. weight 86917, Mw/Mn 2.5.

IT **14807-96-6, Talc**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agent**; manufacturing **olefin polymers** with controlled mol. weight)

RN 14807-96-6 HCAPLUS

CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08F004-642
ICS C08F010-00; C08F010-06; C08F297-08; C08L023-10; C08K003-00; C08K005-00; C08J005-18; B29C045-00; D01F006-04; D04H001-54

CC 37-3 (Plastics Manufacture and Processing)

ST **olefin copolymer** controlled mol wt catalyst; **polypropylene** catalyst dimethylsilyltrimethylcyclopentadieny l trimethylcyclopentadienyl zirconium dichloride methylaluminoxane

IT Aluminoxanes
RL: CAT (Catalyst use); USES (Uses)
(catalyst; manufacturing **olefin polymers** with controlled mol. weight)

IT Crystal **nucleating agents**
(manufacturing **olefin polymers** with controlled mol. weight)

IT **Polyolefins**
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacturing **olefin polymers** with controlled mol. weight)

IT Polypropene **fibers**, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(**nonwoven** fabric; manufacturing **olefin polymers** with controlled mol. weight)

IT **Nonwoven** fabrics
(**polypropylene fiber**; manufacturing **olefin polymers** with controlled mol. weight)

IT 97-93-8, Triethylaluminum, uses 2397-67-3, Triisopropylaluminum 136019-48-2 161442-55-3
RL: CAT (Catalyst use); USES (Uses)
(catalyst; manufacturing **olefin polymers** with

controlled mol. weight)
IT **14807-96-6, Talc**, uses 25085-05-6, Poly(3-methyl-1-butene) 25498-06-0, Polyvinylcyclohexane 81541-12-0, 1,3:2,4-Di(p-methylbenzylidene)**sorbitol** 85209-91-2, Sodium 2,2'-methylene-bis-(4,6-di-tert-butylphenyl)phosphate 88266-74-4, Polyallyltrimethylsilane
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agent**; manufacturing **olefin polymers** with controlled mol. weight)
IT 2212-81-9, 1,3-Bis(tert-butyl-peroxyisopropyl)benzene
RL: MOA (Modifier or additive use); USES (Uses)
(in manufacturing **polypropylene** with controlled mol. weight)
IT 9003-07-0P, **Polypropylene**
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacturing **olefin polymers** with controlled mol. weight)

L133 ANSWER 25 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1998:535368 Document No. 129:217865 Melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability. Ezuka, Toshihige; Moriyama, Katsuo (Nippon Ester Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10219524 A2 19980818 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-38403 19970205.
AB The dull polyester **filaments** are prepared by melt spinning polyester multifilaments containing ≥1% Ti oxide (I), coating the **fibers** with **aqueous emulsions** containing 2.0-8.0% lubricants mainly comprising ethylene oxide-**propylene** oxide **copolymer** (II) in ≥2 steps, and taking up the **fibers** at ≥2500 m/min to give **fibers** with H2O content 10.0-16.0%. A composition containing poly(ethylene terephthalate) and 2.0% I was melt spun, coated with an emulsion containing 5.0% lubricant containing 94% II, subsequently coated with an emulsion containing 3.0% lubricant containing 94% II, taken up at 3000 m/min, and wound to give a packaging with twill collapsing amount <0.5% and comprising **fibers** with lubricant content 0.48% and H2O content 14.8%.
IC ICM D01F011-08
ICS D01D005-096; D01F006-62; D01F006-92
CC 40-2 (Textiles and Fibers)
ST polyester **fiber** dull manuf packaging stability; PET **fiber** dull manuf packaging stability; polyethylene **polypropylene** glycol lubricant finish polyester; titanium oxide polyester **fiber** dull manuf
IT Polyesters, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(**fiber**; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

IT Lubricants
(finishes, containing ethylene oxide-**propylene** oxide **copolymer**; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

IT Polyoxyalkylenes, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(lubricant **finishes**; melt **spinning** of dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

IT Polyester **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

IT 25038-59-9, Poly(ethylene terephthalate), uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; melt spinning dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

IT 9003-11-6, Ethylene oxide-**propylene** oxide **copolymer**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(lubricant **finish**; melt **spinning** of dull polyester multifilaments containing titanium oxide at high speeds with good packaging stability)

L133 ANSWER 26 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1998:316405 Document No. 129:29033 Structure model of oriented copolymerized HDPE monofilaments by die drawing process. Yi, Xiaosu; Zou, Xiangping; Tan, Hongsheng (Dep. Polymers, Zhejiang Univ., Hangzhou, 310027, Peop. Rep. China). Gaofenzi Xuebao (2), 227-231 (Chinese) 1998. CODEN: GAXUE9. ISSN: 1000-3304. Publisher: Kexue Chubanshe.

AB Self-reinforced HDPE monofilament were prepared by die drawing process. According to Cox model for **fiber** composite and Gibson & Ward crystalline bridges model, the reinforced mechanism was discussed to reveal that the mech. improvement of monofilament was

due to the growth of needle-like crystal with larger aspect ratio or the increase in volume fraction of the crystalline bridge. Based on the exptl. results obtained by DMA, **DSC** and SEM, the theor. prediction was also analyzed and discussed, and the theor. values could well-explain the monofilament behavior.

IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(high-d., DGDB 2480; orientation, crystallinity, and morphol. of oriented HDPE monofilaments from die drawing process)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-4 (Textiles and Fibers)

IT **Polyolefin fibers**
RL: PRP (Properties)
(ethylene; orientation, **crystallinity**, and morphol. of oriented HDPE monofilaments from die drawing process)

IT Crystallinity
Filaments
Polymer morphology
(orientation, **crystallinity**, and morphol. of oriented HDPE monofilaments from die drawing process)

IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(high-d., DGDB 2480; orientation, crystallinity, and morphol. of oriented HDPE monofilaments from die drawing process)

L133 ANSWER 27 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1998:268573 Document No. 129:5609 Thermobondable **polyolefin fibers** and their production method. Stengaard, Flemming Faurby; Balslev, Henrik; Carstensen, Peter (Fibervisions A/s, Den.; Stengaard, Flemming Faurby; Balslev, Henrik; Carstensen, Peter). PCT Int. Appl. WO 9817746 A1 19980430, 37 pp. DESIGNATED STATES: W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, ES, FI, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR,

IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English).
CODEN: PIXXD2. APPLICATION: WO 1997-DK467 19971023. PRIORITY: DK
1996-1178 19961024; US 1996-29913 19961104; DK 1997-71 19970120.

AB A method for producing hydrophobic **polyolefin**-containing **fibers** or **filaments**, in particular cardable staple **fibers**, comprises treating **fibers** with hydrophobic **spin finishes** after **spinning** and stretching, that comprise ≥1 water-insol. ester of a mono-, di-, tri- or tetrahydric alc. with mol. weight ≤500 and a branched or straight chain C12-30 fatty acid, e.g. a water-insol. ester of ethylene or propylene glycol, glycerol, neopentyl glycol, trimethylolethane or trimethylolpropane and ≥1 C12-24 (un)saturated fatty acid residue, an anionic or nonionic antistatic agent preferably being applied after crimping. **Fibers** produced by the method and **nonwovens** produced from such **fibers** are included.

IT **9002-88-4P**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(high-d., bicomponent core-sheath **fibers**; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

IC ICM C10M101-00
ICS D06M013-292; D06M013-224
CC 40-10 (Textiles and Fibers)
ST hydrophobic **polyolefin fiber filament**; cardable staple **polyolefin fiber**; antistatic agent **polyolefin fiber**; bicomponent HDPE **polypropylene fiber**; ester **spin finish polyolefin fiber**; spunbond meltblown **polyolefin nonwoven**
IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated, **spin finishes**; manufacture of hydrophobic thermobondable **polyolefin** staple

fibers and **nonwovens**)
IT **Polyolefin fibers**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(ethylene, bicomponent core-sheath; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT **Polyolefin fibers**
Polypropene **fibers**, preparation
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(ethylene-propene; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT Polysiloxanes, uses
Waxes
RL: MOA (Modifier or additive use); USES (Uses)
(friction-reducing additive; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT Esters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(hydrophobic **spin finishes**; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT **Nonwoven** fabrics
Waterproofing
Wetting agents
(manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT **Polyolefin fibers**
Polypropene **fibers**, preparation
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT 53026-21-4 53126-06-0, Potassium butyl phosphate
RL: MOA (Modifier or additive use); USES (Uses)
(antistatic agents; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)
IT 9010-79-1P, Ethylene-**propylene copolymer**
25085-53-4P, **Isotactic polypropylene**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC

(Process)
(**fibers**; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**
)

IT **9002-88-4P**
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(high-d., bicomponent core-sheath **fibers**; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)

IT 56-81-5D, 1,2,3-Propanetriol, esters, uses 57-55-6D, 1,2-Propanediol, esters, uses 77-85-0D, Trimethylolethane, esters 77-99-6D, esters 107-21-1D, 1,2-Ethanediol, esters, uses 126-30-7D, esters 25618-55-7D, Polyglycerol, esters
RL: TEM (Technical or engineered material use); USES (Uses)
(hydrophobic **spin finishes**; manufacture of hydrophobic thermobondable **polyolefin** staple **fibers** and **nonwovens**)

L133 ANSWER 28 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1997:754565 Document No. 128:35371 Hydroperoxide-initiated grafting of poly(styrene-stat-acrylonitrile) onto ultra-high **modulus** polyethylene **fibers**. Arnold, J. J.; Zamora, M. P.; Batich, C. D.; Brennan, A. B. (Department Materials Science Engineering, University Florida, Gainesville, FL, 32611, USA). Journal of Adhesion Science and Technology, 11(10), 1343-1358 (English) 1997. CODEN: JATEE8. ISSN: 0169-4243. Publisher: VSP BV.

AB There is evidence from modeling expts. that designed interphases, e.g. varying graft mol. weight and/or an adjustable interphase **modulus**, will provide a method of tailoring the mech. response of a composite. There is no exptl. evidence yet to substantiate these claims in **fiber**-reinforced composites. Hence, a grafting method that allows better design of the interphase, i.e. an intelligent interphase, is described. The authors' approach is to engineer intelligent interphases using a hydroperoxide-initiated grafting technique that provides a novel method of grafting by a free radical-type polymerization This study describes the hydroperoxidn. and grafting of poly(styrene-stat-acrylonitrile) (SAN) onto ultra-high **modulus** polyethylene (UHMPE) **fibers**. **Differential scanning calorimetry** and **fiber** tensile tests were used to monitor the effect of the surface treatment on **bulk crystallinity** and **fiber** tensile properties. These characterization methods showed that the hydroperoxidn. treatment was not deleterious to the **fiber bulk** properties. The N in poly(styrene-stat-acrylonitrile) was used as a

marker for ESCA in order to verify grafting. ESCA anal. also demonstrated that the grafting reaction was a surface phenomenon, not a **bulk** treatment. Tapping-mode atomic force microscopy (AFM) was used to image the surface morphol. of the UHMPE **fibers** and images of the SAN-grafted **fibers** revealed a distinct topog. comprised of nodules, 3-12 nm high and 10-25 nm apart. A simple hard-sphere model is presented to explain the polymer graft conformation based on the surface morphol. as imaged by AFM. The model corroborates the conclusions that the hydroperoxidn. grafting yields linear chains tethered at the amorphous surface domains.

IT **9002-88-4DP**, Polyethylene, peroxidized
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**fibers**; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high **modulus** polyethylene **fibers**)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

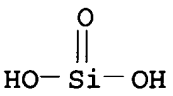
CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 37-4 (Plastics Manufacture and Processing)
ST polyethylene **fiber** hydroperoxidized grafting polystyrene acrylonitrile
IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(ethylene; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high **modulus** polyethylene **fibers**)
IT Polymer morphology
(surface; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high **modulus** polyethylene **fibers**)
IT **9002-88-4DP**, Polyethylene, peroxidized 25087-32-5P, Acrylonitrile-ethylene-styrene copolymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**fibers**; grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high **modulus** polyethylene

fibers)
IT 9003-54-7P, Acrylonitrile-styrene copolymer
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(grafting of poly(styrene-acrylonitrile) onto hydroperoxidized ultra-high **modulus** polyethylene **fibers**)

L133 ANSWER 29 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1997:618917 Document No. 127:279066 Poly(ethylene terephthalate)-based polyester compositions with improved mechanical strength and moisture-heat resistance. Matsumoto, Kazuaki (Kanegafuchi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09241490 A2 19970916 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-85813 19960313.
AB Title compns. contain (A) 100 parts poly(ethylene terephthalate)-based polyesters prepared by polymerization using Ge compound catalysts, (B) 0.2-50 parts graft copolymers obtained by contacting (a) 100 parts **polyolefins** with **aqueous suspensions** containing (b) 0.1-500 parts vinyl monomers, (c) 0.1-30 parts CH2:CRC(:O)NHCH2Ar (Ar = ≥1 glycidyloxy-containing C6-23 aromatic hydrocarbyl; R = H, Me), and (d) 0.01-10 parts [for 100 parts of (a + b)] radically polymerization initiators, and (C) 5-200 parts reinforcement fillers. Thus, poly(ethylene terephthalate) prepared using GeO2 100, N-[(2,3-epoxypropoxy)-3,5-dimethylphenylmethyl]acrylamide-ethylene-**propylene**-styrene graft **copolymer** 10, T 195H/P (glass **fiber**) 50, ADK Stab AO 60 0.35, and ADK Stab AO 412S 0.15 part were dry blended, melt kneaded, pelletized, and injection molded to give a test piece showing tensile strength 150 **MPa** and good moisture-heat resistance.
IT **14807-96-6**, Micro Ace K 1, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agents**; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
ICS C08K003-00; C08K005-00; C08G063-85; C08L067-02; C08L051-06
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 38
ST polyester grafted **polyolefin** blend mech strength; polyethylene terephthalate **polyolefin** blend mech strength; glycidyl **polyolefin** grafted blend polyester; moisture resistance polyester grafted **polyolefin**; heat resistance polyester grafted **polyolefin**; germanium polymn catalyst polyethylene terephthalate
IT **Mica**-group minerals, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agents**, A 21S; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
IT Reinforced plastics
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**fiber**-reinforced; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
IT **Polyolefins**
Polyolefins
RL: MOA (Modifier or additive use); USES (Uses)
(graft; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
IT Glass **fibers**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcements, T 195H/P; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
IT **14807-96-6**, Micro Ace K 1, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crystal **nucleating agents**; poly(ethylene terephthalate)-based polyester blends with improved mech. strength and moisture-heat resistance)
IT 106-89-8, Epichlorohydrin, reactions 13579-23-2, 4-Acrylamidomethyl-2,6-dimethylphenol
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of modifiers for grafted **polyolefins**)

L133 ANSWER 30 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1996:722186 Document No. 125:331503 Rewettable **polyolefin** **fibers** for **nonwoven** fabric layer in diapers.
Carstensen, Peter; Revsbaaek, Per; Dyrmose-Jensen, Katharine (Danaklon A/s, Den.; Carstensen, Peter; Revsbaaek, Per; Dyrmose-Jensen, Katharine). PCT Int. Appl. WO 9633303 A1 19961024, 38 pp. DESIGNATED STATES: W: AU, BR, CA, CN, CZ, CZ, DE, DK, EE,

EE, GE, HU, IS, JP, KR, LT, LV, MX, NO, NZ, PL, RU, SG, SI, SK, SK, UA, US, VN; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-DK178 19960419. PRIORITY: DK 1995-468 19950421.

AB Synthetic **fibers** are prepared by applying to spun **filaments** a first **spin finish** comprising ≥1 hydrophilic lubricant, stretching the **filaments**, applying to the stretched **filaments** a second **spin finish** comprising ≥1 cationic antistatic agent, and crimping, drying, and cutting the **filaments** to obtain hydrophilic staple **fibers.** The **spin finishes**, which may each contain a hydrophilic lubricant and a cationic antistatic agent, may also contain a small amount of a polydiorganosiloxane. The **fibers** may be carded at high speeds and are useful for the preparation of hydrophilic **nonwoven** materials that can maintain wettability after one or several wettings. **Polypropylene fibers** were **finished** (both **spin finishes** of fatty alc. ethoxylate lubricant and fatty acid/polyamine condensate antistat), crimped, annealed, cut to staple **fibers** of fineness 2.2 **dtex**, carded, and thermally bonded (161°) to form **nonwovens** having tensile strength (machine direction) 42.0 g, bondability index 23, and rewet 0.3%, vs. 36.3, 16.1, and 0.26, resp., using anionic ethoxylated silicone **spin finish.**

IC ICM D01F006-04
ICS D06M013-46; D06M015-647

ICI D06M101-20

CC 40-9 (Textiles and Fibers)

ST **polyolefin fiber** hydrophilic finish **nonwoven**; diaper water repellent **nonwoven** finished; rewettable hydrophilic finished **polyolefin fiber**

IT Quaternary ammonium compounds, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Lubricants
(hydrophilic, in finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Antistatic agents
(in finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Siloxanes and Silicones, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(in finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Diapers
(rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in)

IT Textile easy-care finishing
(rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Alcohols, uses
Amides, uses
Esters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(alkoxy, lubricant for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Alcohols
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(ethoxylated, finish for **polyolefin fibers**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT Textiles
(**nonwoven**, rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; rewettable hydrophilic **polyolefin fibers** for **nonwoven** fabric layer in diapers)

L133 ANSWER 31 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1996:417697 Document No. 125:95452 Microporous membranes containing **polyolefins** and ion-exchange fibers. Nago, Kunya (Tokuyama Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08117576 A2 19960514 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-257021 19941021.

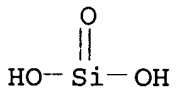
AB The microporous membranes comprise (a) 15-70 weight%

polyolefins, (b) 84-20 weight% filler particles (average particle size 0.01-5.0 μm) **dispersed** in the **polyolefins**, and (c) 1-10 weight% ion-exchange **fibers** (**fiber** diameter ≤30 μm, average fiber length 200-2000 μm) **dispersed** in the **polyolefins** in parallel with the membrane surfaces and in approx. the same directions as to the fiber axes, the membranes having network structures comprising continuous pores with maximum pore size ≤3.0 μm, showing void volume 20-90%, and the **polyolefins** being mol. oriented at the direction of fiber axes of the ion-exchange fibers. The membranes provide efficient removal of contaminants (e.g. trihalomethanes, microorganisms, and other particles) in water and are also useful for air filters, wastewater treatment, etc.

IT **14807-96-6**, **Talc**, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)

RN 14807-96-6 HCAPLUS

CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IT **9002-88-4**, Hizex 1300J
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)

RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

IC ICM B01D071-26
ICS B01D039-16; B01D071-82; C08J009-00
ICI C08L023-02
CC 61-5 (Water)
Section cross-reference(s): 59, 60
ST porous membrane **polyolefin** ion exchanger; water purifn
porous membrane **polyolefin**; fiber ion exchanger water purifn; air filter **polyolefin** ion exchanger
IT **Siloxanes** and Silicones, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Trefil R 925; microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT Synthetic fibers, polymeric
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(divinylbenzene-styrene; microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT Cation exchangers
Ion exchangers
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT Silsesquioxanes
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(Me, microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT Air purification
Wastewater treatment
Water purification
(filtration, microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT 9003-70-7, Divinylbenzene-styrene copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(fiber; microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT 471-34-1, Tunex E, uses 9017-37-2, MP 3000 **14807-96-6**, **Talc**, uses 175069-63-3, KT 115
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT **9002-88-4**, Hizex 1300J 9003-07-0, PN 120 9010-79-1, MS

624 178668-38-7, IEF-SC 3025 178668-39-8, IEF-SC 3050
178668-40-1, IEF-SC 3080
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)
IT 71-55-6, 1,1,1-Trichloroethane 74-82-8D, Methane, trihalo derivs.
RL: REM (Removal or disposal); PROC (Process)
(microporous membranes containing **polyolefins**, filler particles, and ion-exchange fibers for purification of water and air)

L133 ANSWER 32 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:931282 Document No. 123:343271 Cardable, hydrophobic **polyolefin** staple **fibers**, their manufacture, and **nonwoven** webs from. Jensen, Arne; Dyrmose-Jensen, Katharine; Clausen, Lydia Dahl; Marcher, Bjoern (Danaklon A/S, Den.). PCT Int. Appl. WO 9519465 A1 19950720, 56 pp. DESIGNATED STATES: W: AU, BR, CA, CN, CZ, DE, DK, JP, KR, MX, RU, UA, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1995-DK24 19950113. PRIORITY: DK 1994-70 19940114.
AB Title manufacture comprises applying to spun **filaments** a first **spin finish** comprising ≥1 cationic antistatic agent, especially a quaternary ammonium salt, stretching the **filaments**, applying a second **spin finish** dispersion comprising ≥1 hydrophobic lubricant selected from a fatty acid amide condensation product and a hydrocarbon wax, crimping, drying, and cutting the **filaments** to obtain staple **fibers**. The **fibers** can be carded at extremely high speeds and are particularly suitable for use in the preparation of thermally bonded hydrophobic **nonwoven** fabrics in which a dry, water-repellent surface which can function as a liquid barrier is desired, e.g., for disposable diapers, feminine hygienic products and medical products. The second finish may further comprise a cationic antistatic agent in ≤20 weight%.
IC ICM D06M013-02
ICS D06M015-227; D06M013-463; D06M013-402
CC 40-7 (Textiles and Fibers)
ST cardable hydrophobic **polyolefin** staple **fiber** finish; fatty amide cardable hydrophobic **polyolefin** staple; antistatic agent cardable hydrophobic **polyolefin** staple; quaternary cardable hydrophobic **polyolefin** staple
IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(antistatic agents; in production of cardable, hydrophobic **polyolefin** staple **fibers**)
IT Paraffin waxes and Hydrocarbon waxes, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(in production of cardable, hydrophobic **polyolefin** staple **fibers**)

IT **Polyolefin fibers**
Polypropene **fibers**, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(manufacture of cardable, hydrophobic staple)

IT Antistatic agents
(quaternary ammonium compds.; in production of cardable, hydrophobic **polyolefin** staple **fibers**)

IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fatty, in production of cardable, hydrophobic **polyolefin** staple **fibers**)

IT 170905-45-0, Beistat LXO 170906-06-6, Novostat 1105 170906-56-6, Silastol VP 33G213/1 170906-57-7, Silastol VP 33G213/2
RL: TEM (Technical or engineered material use); USES (Uses)
(antistatic agent; in production of cardable, hydrophobic **polyolefin** staple **fibers**)

IT 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**fiber**; manufacture of cardable, hydrophobic staple)

IT 9016-00-6, Dimethylsilanediol homopolymer, sru 31900-57-9, Dimethylsilanediol homopolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(in production of cardable, hydrophobic **polyolefin** staple **fibers**)

IT 170905-44-9, Beilub 6993 170906-05-5, Novolub 2440
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant; in production of cardable, hydrophobic **polyolefin** staple **fibers**)

L133 ANSWER 33 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:918311 Document No. 124:90097 Evaluation of the degree of **crystallinity** of **fibers** from polymer blends. Part I. Kwiatkowski, Ryszard; Wlochowicz, Andrzej; Rabiej, Stanislaw (Inst. Wlokienniczy, Politech. Lodzka, Bielsko-Biala, Pol.). Przeglad Wlokienniczy + Technik Wlokienniczy, 49(8), 8-10 (Polish) 1995. CODEN: PWTWEA. ISSN: 1230-0381. Publisher: Wydawnictwo SIGMA NOT.

AB A method was proposed for differentiating in the **x-ray diffraction** patterns of **fibers** prepared from a blend of a semicryst. polymer with an amorphous polymer (S-A samples) or from a blend of a semicryst. polymer with a an amorphous copolymer (C-CA samples) between the diffraction of the amorphous and the semicryst. portion of the **fiber.** The method was applied with good results to characterization of **fibers** prepared from **polypropylene**-polystyrene, polyethylene-ABS polymer, poly(butylene terephthalate) (I)-nylon 6,

and I-nylon 11 blends.
CC 40-4 (Textiles and Fibers)
Section cross-reference(s): 37
ST synthetic **fiber** blend **x ray** **diffraction**; **crystallinity** synthetic **fiber** polymer blend; nylon 11 blend synthetic **fiber** **crystallinity**; polybutylene terephthalate synthetic **fiber crystallinity**; polycaprolactam blend synthetic **fiber crystallinity**; ABS polymer blend synthetic **fiber crystallinity**; polyethylene blend synthetic **fiber crystallinity**; polystyrene blend synthetic **fiber crystallinity**
IT Crystallinity
(evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Synthetic **fibers**, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Polyamide **fibers**, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(6, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Acrylic **fibers**, uses
Synthetic **fibers**, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(acrylonitrile-butadiene-styrene, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Polyester **fibers**, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(butanediol-terephthalic acid, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT **Polyolefin fibers**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(ethylene, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Polyamide **fibers**, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(laurolactam, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)
IT Synthetic **fibers**, polymeric
RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)
(styrene, evaluation of the degree of **crystallinity** of **fibers** from polymer blends)

IT 9003-56-9, ABS polymer 24968-12-5, Butanediol-terephthalic acid copolymer SRU 25035-04-5, Nylon 11 25587-80-8 26062-94-2, Butanediol-terephthalic acid copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(evaluation of the degree of **crystallinity** of **fibers** from polymer blends)

L133 ANSWER 34 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:703798 Document No. 123:85785 Morphology of gel-spun polyethylene **fibers.** Khosravi, Nasrin; Warner, S. B.; Murthy, N. S.; Kumar, Satish (Sch. Textile and Fiber Engineering, Georgia Inst. Technology, Atlanta, GA, 30332-0295, USA). Journal of Applied Polymer Science, 57(7), 781-7 (English) 1995. CODEN: JAPNAB. ISSN: 0021-8995. Publisher: Wiley.

AB HNO3 etching studies were conducted on samples of com. available highly oriented gel-spun polyethylene **fibers** Spectra 900 and 1000 from Allied Signal, Inc. The results show that the acid attacks the **fiber**, increases **crystallinity** as observed by **X-ray diffraction**, increases the enthalpy of melting of unconstrained **fibers** by 13-25%, and removes topol. constraints, thus facilitating the crystallization of chain segments in the noncryst. regions. The acid functionalizes the **fiber**, creating various O- and N-containing moieties, specifically (C=O)-, -C=C-, and -NO2 groups. The small weight loss upon etching, less than 2%, and the fact that **fibers** weaken but do not fragments suggests that the gel-spun and -drawn morphol. is more resistant to acid attack than are other morphologies of polyethylene. Photomicroscopy shows that acid etching opens cracks normal to the **fiber** axis. That the acid can attack the gel-spun **fibers** indicates the presence of structural imperfections such as folds, mol. kinds, or uncrystd. regions within the **fibers.** IR anal. on virgin **fibers** shows the absence of absorption bands normally associated with the presence of chains lying within amorphous regions in polyethylene. These and other morphol. features are integrated into a description of the structure of com. gel-spun polyethylene **fibers.**

IT **9002-88-4**, Polyethylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(**fibers**, Spectra 900 and Spectra 1000; morphol. of acid-etched gel-spun polyethylene **fibers**)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-4 (Textiles and Fibers)
ST gel spun polyethylene **fiber** morphol
IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(ethylene, Spectra 900 and Spectra 1000; morphol. of acid-etched gel-spun polyethylene **fibers**)
IT Polymer morphology
(surface, morphol. of acid-etched gel-spun polyethylene **fibers**)
IT **9002-88-4**, Polyethylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(**fibers**, Spectra 900 and Spectra 1000; morphol. of acid-etched gel-spun polyethylene **fibers**)
IT 7697-37-2, Nitric acid, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(morphol. of acid-etched gel-spun polyethylene **fibers**)

L133 ANSWER 35 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:617867 Document No. 123:58736 Cardable hydrophobic **polyolefin fibers**, process for their manufacture and **nonwoven** textiles from. Thomsen, Lydia Dahl; Marcher, Bjorn; Hansen, Pia Holm (Danaklon A/S, Den.). PCT Int. Appl. WO 9420664 A1 19940915, 48 pp. DESIGNATED STATES: W: AU, BR, CA, CN, DE, DK, JP, KR, RU, UA, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1994-DK91 19940304. PRIORITY: DK 1993-248 19930305.
AB A process for producing cardable, hydrophobic **polyolefin** -based staple **fibers**, comprising applying to spun **filaments** a first **spin finish** comprising an antistatic agent, in particular a neutralized phosphoric acid ester, stretching the **filaments**, applying to the stretched **filaments** a second **spin finish** in the form of a **dispersion** comprising an antistatic agent, a natural or synthetic hydrocarbon wax with a m.p. 40-120°, or a wax mixture comprising ≥1 hydrocarbon wax and having a m.p.

40-120°, and optionally a **polydiorganosiloxane**, eg., di-Me **siloxane**, crimping the **filaments**, drying the **filaments**, and cutting the **filaments** to obtain staple **fibers**. The process allows the production of **fibers** that have controlled friction and hydrophobic properties and that can be carded at high speeds giving thermally bonded **nonwovens** having excellent hydrophobic characteristics. The **nonwovens** can function as liquid barriers in disposable diapers, feminine hygiene products, and medical gowns or drapes (no data).

IT **9002-88-4**, Polyethylene
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; cardable, hydrophobic and **nonwoven** textiles from)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

IC ICM D06M013-292
ICS D06M015-227
CC 40-7 (Textiles and Fibers)
Section cross-reference(s): 63
ST cardable hydrophobic **polyolefin fiber** finish; **polypropylene** cardable hydrophobic **fiber** finish; polyethylene cardable hydrophobic **fiber** finish; antistatic cardable hydrophobic **polyolefin fiber**; wax cardable hydrophobic **polyolefin fiber**; **siloxane** cardable hydrophobic **polyolefin fiber**

IT Antistatic agents
(cardable hydrophobic **polyolefin fibers**, process for their manufacture and **nonwoven** textiles from)

IT Paraffin waxes and Hydrocarbon waxes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cardable hydrophobic **polyolefin fibers**, process for their manufacture and **nonwoven** textiles from)

IT Polypropene **fibers**, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(cardable, hydrophobic and **nonwoven** textiles from)

IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(process for manufacture of cardable, hydrophobic and **nonwoven** textiles from)

IT **Polyolefin fibers**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ethylene, cardable, hydrophobic and **nonwoven** textiles from)

IT 164715-25-7, Silastol F 203
RL: NUU (Other use, unclassified); USES (Uses)
(antistatic agent; for cardable hydrophobic **polyolefin fibers**, process for their manufacture and **nonwoven** textiles from)

IT **9002-88-4**, Polyethylene 25085-53-4, **Isotactic polypropylene**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**fiber**; cardable, hydrophobic and **nonwoven** textiles from)

IT 7664-38-2D, Phosphoric acid, C16-18 alkyl esters 9016-00-6, Dimethylsilanediol homopolymer, sru 31900-57-9, Dimethylsilanediol homopolymer
RL: NUU (Other use, unclassified); USES (Uses)
(for cardable hydrophobic **polyolefin fibers**, process for their manufacture and **nonwoven** textiles from)

L133 ANSWER 36 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:220754 Document No. 122:216487 Polyether-containing **fiber** finishes. Doi, Tetsuo; Tatemoto, Shinichi; Kimura, Tsutomu; Munekyo, Takeshi (Matsumoto Yushi Seiyaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06228885 A2 19940816 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-14605 19930201.

AB The **fiber** adhesion and **fiber-fiber** abrasion resistance are improved by addition of (fatty acid-end-capped) polyethers with mol. **weight** 1000-20,000 consisting of random or block adducts of C4-24 alkylamines or C4-44 dialkylamines and C2-4 alkylene oxides to finishes. Thus, a composition of isooctyl palmitate 50, dioleyl adipate 10, polyoxyethylene oleyl ether 6, ethoxylated hardened castor oil 10, oleic acid diethanolamide 5, Na alkylsulfonate 5, KOAc 1, and laurylamine-ethylene oxide-propylene oxide adduct (mol. **weight** 5000) 8 parts showed phase inversion viscosity 1000 cP and its 10% **aqueous emulsion** adhered strongly (16.8% as emulsion pickup) to polyester **filaments** with good **fiber-fiber** abrasion resistance (450 rubbing strokes until

breakage).
IC ICM D06M015-53
CC 40-7 (Textiles and Fibers)
ST polyether **fiber** finish multifilament manuf; high speed **spinning fiber finish**; alkoxylated alkylamine **fiber** finish; abrasion resistance polyether **fiber** finish; laurylamine polyoxyalkylene ether finish polyester **fiber**
IT Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(amine ethers; **fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT Polyester **fibers**, miscellaneous
RL: MSC (Miscellaneous)
(**fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT Synthetic **fibers**, polymeric
RL: MSC (Miscellaneous)
(multifilaments; **fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT Amines, uses
RL: MOA (Modifier or additive use); USES (Uses)
(aliphatic, alkoxylated; **fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT Fatty acids, uses
RL: MOA (Modifier or additive use); USES (Uses)
(esters, with alkoxylated amines; **fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT 82497-16-3 84931-84-0 162031-77-8 162031-99-4 162032-17-9 162032-23-7, Ethylene oxide-**propylene** oxide **copolymer** ether with distearylamine
RL: MOA (Modifier or additive use); USES (Uses)
(**fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)
IT 25038-59-9, Poly(ethylene terephthalate), miscellaneous
RL: MSC (Miscellaneous)
(**filaments**; **fiber** finishes containing (fatty acid-terminated) polyoxyalkylated aliphatic amines)

L133 ANSWER 37 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1995:28115 Document No. 122:108475 Polybutylene monofilaments. I: Preparation and properties. Shaw, J. P.; Gilbert, M. (Inst. Polymer Technol. Mater. Eng., Loughborough Univ. Technol., Loughborough/Leicestershire, LE11 3TU, UK). Plastics, Rubber and Composites Processing and Applications, 22(1), 9-27 (English) 1994. CODEN: PRPAEP. ISSN: 0959-8111.
AB The effect of processing variables, i.e., cooling water temperature, haul-off rate, and screw speed, on the properties of monofilaments

produced from 8 grades of 1-butene polymers was studied. The crystallinity and birefringence of the monofilaments were measured, and wide-angle **x-ray diffraction** was used to indicate the extent of crystallite orientation. Tensile properties and elasticity were also measured. Except for low crystallinity grades and a highly **nucleated** variant, crystallinity increased with increasing water bath temperature, which resulted in increased **modulus** and elasticity. Break strain and break stress were reduced. For most samples, birefringence was almost independent of bath temperature, although increases with temperature were observed for three grades. Over a wide **draw-ratio** range, orientation behavior was shown to be complex and dependent on grade. Increased **draw ratio** generally increased break stress and **modulus** and decreased break strain. Stress at break was related to birefringence, although the nature of this relationship varied. Highly elastic materials showing up to 90% recovery were produced for certain grades by using appropriate processing conditions. High elasticity was associated with the combination of a highly developed crystalline phase, a high amorphous orientation, and a moderate crystalline orientation.

IT **9002-88-4P**, Polyethylene
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(butene-ethylene **copolymer** blends, **fiber**, monofilament; effect of melt spinning conditions on properties of)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-2 (Textiles and Fibers)
ST polybutene monofilament extrusion; tensile property polybutene **fiber**; **crystallinity** polybutene **fiber**; birefringence polybutene **fiber**; elasticity polybutene **fiber**; melt spinning butene polymer **fiber**
IT Polypropene **fibers**, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(composite with butene copolymer, monofilament; effect of melt

spinning conditions on properties of)

IT **Polyolefin fibers**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(butene, monofilament; effect of melt spinning conditions on properties of)

IT **Polyolefin fibers**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(butene-ethylene, monofilament; effect of melt spinning conditions on properties of)

IT **Polyolefin fibers**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(ethylene, composite with butene copolymer, monofilament; effect of melt spinning conditions on properties of)

IT **9002-88-4P**, Polyethylene 9003-07-0P, **Polypropylene**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(butene-ethylene **copolymer** blends, **fiber**, monofilament; effect of melt spinning conditions on properties of)

IT 9003-28-5P, Poly(1-butene)
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(**fiber**, monofilament; effect of melt spinning conditions on properties of)

L133 ANSWER 38 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1994:325703 Document No. 120:325703 Finish composition for **fibers.** Barsotti, Giampiero (Moplefan S.p.A., Italy). Eur. Pat. Appl. EP 576896 A2 19940105, 4 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1993-109508 19930611. PRIORITY: IT 1992-MI1625 19920703.

AB Title finish composition, especially for **polyolefin fibers**, comprises, sep. or as mixture, a fatty acid-polyalkyleneamine condensation product quaternized with a chlorohydrin-polyethylene glycol condensation product and a hydrogenated fatty acid-aminoalkylalkanolamine condensation product neutralized with an α-hydroxycarboxylic acid, and containing an ethoxylated fatty alc. emulsifier. This composition gives good processability (antistatic effect) and high hydrophobicity to the **fibers** and good adhesion of adhesive labels to the **nonwoven** fabric articles produced from the treated **fibers.**

IC ICM D06M013-46
ICS D06M013-402

CC 40-7 (Textiles and Fibers)

ST **polyolefin fiber spin finish**
; polyalkylenamine fatty acid **spin finish**;
propylene **fiber spin finish**;
aminoalkylalkanolamine fatty acid **spin finish**;
hydroxycarboxylic acid **spin finish**; alc fatty
ethoxylated **spin finish**; antistatic
polyolefin fiber spin finish

IT **Polyolefin fibers**
Polypropene **fibers**, miscellaneous
RL: USES (Uses)
(finish composition for, with good processability and high hydrophobicity)

IT Alcohols, compounds
RL: USES (Uses)
(amino, reaction products, with fatty acids, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Alcohols, uses
RL: USES (Uses)
(carboxy, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Quaternary ammonium compounds, uses
RL: USES (Uses)
(fatty amido, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Amides, compounds
RL: USES (Uses)
(fatty, quaternized, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Tallow
RL: USES (Uses)
(hydrogenated, reaction products, with aminoethanolamine, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Carboxylic acids, uses
RL: USES (Uses)
(hydroxy, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT Polyamines
RL: USES (Uses)
(polyalkylene-, reaction products, with fatty acids, quaternized, finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

IT 9003-07-0, **Polypropylene**
RL: USES (Uses)
(**fiber**, finish composition for, with good processability and high hydrophobicity)

IT 57-11-4D, Stearic acid, reaction products with

tetraethylenepentamine 79-14-1, Glycolic acid, uses 109-84-2D, Aminoethanolamine, reaction products with hydrogenated tallow 112-57-2D, Tetraethylenepentamine, reaction products with stearic acid 25322-68-3D, Polyethylene glycol, fatty alkyl ethers 37569-89-4D, Polyethylene glycol bischlorohydrin ether, reaction products with fatty amides
RL: USES (Uses)
(finish composition, for **polypropylene fibers**, with good processability and high hydrophobicity)

L133 ANSWER 39 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1994:220244 Document No. 120:220244 Analysis of ballistically caused damage in some test panel **fibers.** Cohen, S. H.; Prosser, R. A.; King, A.; Desper, C. R. (Army Matick Res. Dev. Eng. Cent., MA, USA). Report, NATICK/TR-92/032; Order No. AD-A252220, 51 pp. Avail. NTIS From: Gov. Rep. Announce. Index (U. S.) 1992, 92(20), Abstr. No. 257,054 (English) 1992.

AB Microscopic and **x-ray diffraction** methods to analyze ballistically induced damage to **fibers** and yarns within multilayer panels of Spectra-900 and Spectra-1000, polyethylene, and Kevlar are described. Microscopic evaluation by SEM showed heat-induced damage in **fibers** several layers beyond the layer in which the .22-caliber projectile came to rest, and **x-ray diffraction** showed **crystallinity** differences in **fibers** close to and at some distance from the point of ballistic impact. Polarization microscopy was used to corroborate the **x-ray diffraction** findings, by elucidating differences in birefringence within the **fibers.**

IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(**fibers**, ballistically caused damage in panels of, testing of)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 40-4 (Textiles and Fibers)
ST ballistic damage test panel **fiber**; polyethylene **fiber** ballistic damage panel; polyester **fiber**

ballistic damage panel; aramid **fiber** ballistic damage panel
IT Testing of materials
(ballistic, of **fiber** panels)
IT Polyester **fibers**, properties
RL: PRP (Properties)
(ballistically caused damage in panels of, testing of)
IT Polyamide **fibers**, properties
RL: PRP (Properties)
(aramid, ballistically caused damage in panels of Kevlar, testing of)
IT **Polyolefin fibers**
RL: PRP (Properties)
(ethylene, ballistically caused damage in panels of Spectra 900, testing of)
IT **9002-88-4**, Polyethylene
RL: PRP (Properties)
(**fibers**, ballistically caused damage in panels of, testing of)

L133 ANSWER 40 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1994:193943 Document No. 120:193943 Process for high-speed spinning of polyester **fibers** with reduced neps and yarn breakage.
Makino, Shoji; Taniguchi, Katsutoshi (Teijin Ltd., Japan). PCT Int. Appl. WO 9320268 A1 19931014, 21 pp. DESIGNATED STATES: W: KR, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1993-JP398 19930330. PRIORITY: JP 1992-79771 19920401.
AB In the title process, spun polyester **fibers** are coated with **aqueous** lubricant **emulsions** containing mainly monobasic acid esters having average mol. **weight** 300-500, 1-15% polyoxyalkylene glycol copolymers having average mol. **weight** ≥1000, and 0.1-3% organic **siloxane** compds. and/or fluoroalkyl group-containing compds. and wound at ≥3000 m/min. PET was melt spun, coated with 10% emulsion containing octyl stearate 60, ethylene oxide-polytetramethylene glycol copolymer 5, and ethylene oxide-modified silicone 2 parts to effective component content 0.4%, taken up at 4000 m/min, and drawn to give **fibers** with low number of neps and yarn breaks.
IC ICM D01F006-62
ICS D01F011-08; D06M015-53; D06M013-224; D06M013-50; D06M013-08
ICI D06M101-32
CC 40-2 (Textiles and Fibers)
ST polyester **fiber** high speed spinning; octyl stearate lubricant **finish** polyester **spinning**; polyoxyalkylene lubricant **finish** polyester **spinning**; silicone lubricant **finish** polyester **spinning**; lubricant finish polyester high speed spinning

IT Lubricants
(finishes, containing monobasic acid esters, polyoxyalkylenes and silicones and/or fluoroalkyl group-containing compds., for high-speed spinning of polyester **fibers** with reduced neps)
IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT Polyester **fibers**, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(spinning of, at high speeds, lubricant finishes containing monobasic acid esters, polyoxyalkylenes and silicones and/or fluoroalkyl group-containing compds. for)
IT **Siloxanes** and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(amino-containing, lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT **Siloxanes** and Silicones, compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated, monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT Acids, compounds
RL: TEM (Technical or engineered material use); USES (Uses)
(monobasic, esters, lubricant finishes containing, for high-speed spinning of polyester **fibers**)
IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(perfluoroalkyl, monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT **Siloxanes** and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-, lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT **Siloxanes** and Silicones, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-, lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**siloxane**-, lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)
IT 25038-59-9P, Poly(ethylene terephthalate), preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(**fiber**, high-speed spinning of, with reduced neps and yarn breakage, lubricant finishes for)
IT 109-36-4, Octyl stearate 2306-92-5, Octyl decanoate 3687-45-4,

Oleyl oleate 13945-76-1, Lauryl laurate 16958-85-3, Octyl palmitate 22047-49-0, Octyl stearate 70364-64-6, Isotridecyl palmitate 72576-78-4
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)

IT 9003-11-6, Ethylene oxide-**propylene** oxide **copolymer** 25322-68-3D, Polyethylene glycol, ethers with silicones 27637-03-2
RL: TEM (Technical or engineered material use); USES (Uses)
(monobasic acid ester lubricant finishes containing, for high-speed spinning of polyester **fibers** with reduced neps)

L133 ANSWER 41 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1993:651245 Document No. 119:251245 Polyethylene **fibers** -polyethylene matrix composites: preparation and physical properties. Teishev, Albert; Incardona, Silvia; Migliaresi, Claudio; Marom, Gad (Grad. Sch. Appl. Sci. Technol., Hebrew Univ., Jerusalem, 91904, Israel). Journal of Applied Polymer Science, 50(3), 503-12 (English) 1993. CODEN: JAPNAB. ISSN: 0021-8995.

AB Drawing on the difference in m.ps. of ultrahigh-**modulus** polyethylene (I) **fiber** (150°) and HDPE matrix (130°), single-polymer composites were fabricated under various processing conditions. Because of the chemical similarity of the composite components, good bonding at the **fiber**-matrix interface could be expected. The matrix, the **fiber**, and unidirectional composite laminate were studied using thermomech. and **DSC** analyses, a hot-stage crystallization unit attached to a polarizing microscope, and a universal tensile testing machine. The thermomech. anal. showed neg. thermal expansion of the **fiber** over the complete temperature range of the experiment Three regimes of contraction according to the values of the thermal expansion coefficient were detected. **DSC** analyses of either the **fiber** or the composite specimens did not show any appreciable changes after various thermal treatments. They also showed no evidence of **fiber** relaxation during manufacture, probably because of the pressure-related transverse constraint. The tensile strength and **modulus** values of the composite appeared to be fairly high and close to those reported for other composites reinforced with I **fibers.** A study of the matrix microstructure did not give any proof of transcryst. growth at the **fiber**-matrix interface even for chemical or plasma surface-treated **fibers.**

IT **9002-88-4P**, Polyethylene
RL: SPN (Synthetic preparation); PREP (Preparation)
(**fiber**-matrix composites, preparation and properties of)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

CC 37-5 (Plastics Manufacture and Processing)
ST polyethylene **fiber** matrix composite; expansion contraction polyethylene composite; strength polyethylene **fiber** matrix composite
IT **Crystallinity**
(of polyethylene **fiber**-matrix composites, properties in relation to)
IT **Polyolefin fibers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(ethylene, HDPE composites, preparation and properties of)
IT **9002-88-4P**, Polyethylene
RL: SPN (Synthetic preparation); PREP (Preparation)
(**fiber**-matrix composites, preparation and properties of)

L133 ANSWER 42 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1993:605418 Document No. 119:205418 Finish for textile **fibers**. Petrea, Randy Dell; Schuette, Robert Louis (Milliken Research Corp., USA). Eur. Pat. Appl. EP 547846 A1 19930623, 11 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1992-311346 19921211. PRIORITY: US 1991-806990 19911213.
AB Title finish comprises poly-α -**olefins** 70-95, an emulsifier selected from ethoxylated C12-36 branched alcs., alkoxylated ≥3 OH group containing polyhydric alcs. which are esterified with C12-36 fatty acids, and alkoxylated glycerol esters of C12-36 fatty acids having ≥1 OH group 5-30, ionic emulsifiers ≤10, and antisoiling additive ≤5 parts. These compns. are used as **spin finishes** for synthetic **fibers**, especially elastomeric polyurethanes, polyesters, and polyamides. A composition containing of a 4 cSt poly(. **alpha.-olefin**) 80, ethoxylated 2-octyldodecanol (7 EO) 20, C12-15 5 ethylene oxide phosphate 5.3, and ethoxylated castor oil 4.5 g was prepared and 7.9 g H2O added to provide a clear stable mixture This composition on 70/34 polyester had **fiber/fiber** hydrodynamic **friction** 0.57 and boundary kinetic **fiber/fiber friction** 0.14.
IC ICM D06M013-03
ICS D06M015-227; D06M013-17; D06M013-165; D06M013-224
CC 40-7 (Textiles and Fibers)

ST **spin finish polyolefin** synthetic **fiber**; alkoxylated alc **spin finish**; polyhydric alc alkoxylated **spin finish**; glycerol ester **spin finish**

IT Emulsifying agents
(in manufacture of **spin finishes** for synthetic **fibers**)

IT Polyamide **fibers**, miscellaneous
Polyester **fibers**, miscellaneous
Spandex **fibers**
RL: MSC (Miscellaneous)
(**spin finishes** for)

IT Fatty acids, esters
RL: USES (Uses)
(C12-36, esters, with polyhydric alcs., ethoxylated, in manufacture of **spin finishes** for synthetic **fibers**)

IT Alcohols, compounds
RL: USES (Uses)
(C12-36, ethoxylated, in manufacture of **spin finishes** for synthetic **fibers**)

IT Castor oil
Glycerides, compounds
RL: USES (Uses)
(ethoxylated, in manufacture of **spin finishes** for synthetic **fibers**)

IT Alkenes, polymers
RL: USES (Uses)
(α-, polymers, oligomers, **spin finish** compns. for synthetic **fibers** containing)

IT 9003-27-4, Tebeflex 200 9056-42-2D, C12-15-alkyl ethers 32128-65-7 150825-14-2
RL: USES (Uses)
(in manufacture of **spin finishes** for synthetic **fibers**)

IT 872-05-9, 1-Decene 1120-36-1, 1-Tetradecene 25067-08-7, 1-Dodecene homopolymer 25068-25-1, 1-Octene homopolymer
RL: USES (Uses)
(oligomers, in manufacture of **spin finishes** for synthetic **fibers**)

L133 ANSWER 43 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1990:22298 Document No. 112:22298 **Spinning finish** for **polypropylene** and polyamide **fibers** for improved processability. Svoboda, Karol; Mikolaj, Dusan; Babjak, Jan; Simo, Rudolf; Nemeth, Ladislav (Czech.). Czech. CS 260758 B1 19890515, 5 pp. (Slovak). CODEN: CZXXA9. APPLICATION: CS 1985-5353 19850719.

AB An 1-25% **aqueous dispersion** of tech. **olefin**

ethoxylated with 10-30 mol oxirane is applied to **polypropylene** or polyamide **fibers** before the **spinneret** as a **finish** for effectively reducing the friction between **fibers** and metal or corundum and improving coherence of a tow during winding, stretching, texturing, and other operations. The content of finish on **fibers** is 0.3-2.2%.

IC ICM D06M015-263
CC 40-7 (Textiles and Fibers)
ST **olefin** ethoxylated finish **polypropylene** **fiber**; polyamide **fiber** finish ethoxylated **olefin**; friction redn **polypropylene fiber** ; processability mech polypropane **fiber**
IT Lubricants
(ethoxylated olein, for finishing of polyamide or polypropene **fibers** for improved processability)
IT Polyamide **fibers**, uses and miscellaneous
Polypropene **fibers**, uses and miscellaneous
RL: USES (Uses)
(**spinning finishes** for, ethoxylated olein as, for reduced friction and improved processability)
IT 68958-64-5
RL: USES (Uses)
(finishes, for polyamide or **polypropylene** **fibers**, for reduced friction)

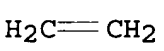
L133 ANSWER 44 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1987:139494 Document No. 106:139494 Polyester molding compositions. Okamoto, Takashi; Ohama, Fumio (Unitika Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61241353 A2 19861027 Showa, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-85167 19850418.
AB The title compns., having low-temperature impact strength, heat resistance, and good processability, comprise a poly(ethylene terephthalate) (I)-polyarylate mixture 100, an inorg. **nucleating agent** having average particle diameter ≤50 μ and/or metal carboxylate-containing organic compound (or polymer) 0.05-10, a **polyolefin** or elastomer modified with 0.001-10 mol % alicyclic carboxylic acid or its derivative 3-30, 80-99:1-20:0-19 α -**olefin**-glycidyl (meth)acrylate-vinyl acetate copolymer 1-30, and reinforcing **fibers** 0-150 parts. Thus, a mixture of 70% I (intrinsic viscosity 0.68; 6:4 PhOH-C2H2Cl4; 0.5%; 20°) and 30% polyarylate (prepared from 1:1 terephthalic acid-isophthalic acid mixture and bisphenol A; reduced viscosity 0.65; 25°; 1 g/dL) 100, Surlyn 1555 (II) 3, modified copolymer (III) (prepared from 72.0:28.0 ethylene-propene rubber 1000, endo-bicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride 3, and tert-Bu2O2 1 part) 10, and 92:8 ethylene-glycidyl methacrylate copolymer 5 parts was molded at

260° with molding cycle 20 s to give a molding having Izod impact strength (kg-cm/cm) 38 at room temperature and 23 at -30° and heat-distortion temperature 85°, vs. 15, 6, and 70, resp., without II and III.

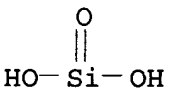
IT **9002-88-4D**, Polyethylene, carboxylated
RL: USES (Uses)
(aromatic polyester blends containing, heat- and impact-resistant)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



IT **14807-96-6**, **Talc**, uses and miscellaneous
RL: USES (Uses)
(**nucleating agents**, aromatic polyester blends containing)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC ICM C08L067-02
ICS C08K003-00; C08K005-09; C08K013-04
ICI C08L067-02, C08L023-26, C08L023-02; C08L067-02, C08L023-26, C08L063-00; C08K013-04, C08K007-14, C08K003-00; C08K013-04, C08K007-14, C08K005-09
CC 38-3 (Plastics Fabrication and Uses)
ST polyarylate blend polyethylene terephthalate; polyester blend molding; **nucleating agent** polyester blend; ionomer polyester blend; bicycloheptenedicarboxylic **polyolefin** polyester blend; ethylene copolymer polyester blend; glycidyl acrylate copolymer blend; vinyl acetate copolymer blend; impact strength polyester blend; heat resistance polyester

blend; bisphenol benzenedicarboxylic polyester blend
IT Kaolin, uses and miscellaneous
Mica-group minerals, uses and miscellaneous
RL: USES (Uses)
(**nucleating agents**, aromatic polyester blends containing)
IT Crystal **nucleation**
(**agents**, carboxylate compds., aromatic polyester blends containing)
IT 129-64-6D, reaction products with **olefin polymers**
9002-88-4D, Polyethylene, carboxylated 9003-07-0D, **Polypropylene**, carboxylated 24937-78-8D, Ethylene-vinyl acetate copolymer, carboxylated 25038-59-9, Poly(ethylene terephthalate), uses and miscellaneous 25087-34-7D, 1-Butene-ethylene copolymer, carboxylated 26061-90-5, Ethylene-glycidyl methacrylate copolymer
RL: USES (Uses)
(aromatic polyester blends containing, heat- and impact-resistant)
IT 7631-86-9, Silica, uses and miscellaneous **14807-96-6**, **Talc**, uses and miscellaneous
RL: USES (Uses)
(**nucleating agents**, aromatic polyester blends containing)

L133 ANSWER 45 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1986:462170 Document No. 105:62170 Blends of fluoroalkylguanidines with fluorinated polyoxyalkylenes. Chang, John C.; Williams, Kathryn L. (Minnesota Mining and Manufacturing Co., USA). U.S. US 4565641 A 19860121, 13 pp. Cont.-in-part of U.S. Ser. No. 440,317, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1984-633977 19840724. PRIORITY: US 1982-440317 19821109.
AB Mixts. of (fluoroalkyl)guanidines and polyoxyalkylenes bearing fluoroalkyl groups are useful in organic solvents or as **aqueous dispersions** in oil- and waterproofing **fibers.** Thus, a neat oil-**spin finish** containing 13.1% RZ[NHC(NBu2):NZ]2R [R = C8F17SO2N(Et)CH2CH2OCONH, Z = CH2(C6H4)2], 5.0% acrylic polymer [from C8F17SO2N(Bu)CH2CH2OCOCH:CH2 and polyethylene-**polypropylene** glycol mono- and diacrylate] 46.2% coconut oil-based lubricant, and 35.7% Bu(OCH2CH2)2OH was coated (425 ppm F) on nylon **fibers** which were spun to a carpet retaining 81% F after dyeing and having good resistance to oil, water, and walk-on soiling.
IC ICM D06M013-08
INCL 252008750
CC 40-9 (Textiles)
ST fluoropolymer finish **fiber**; waterproofing finish **fiber**; soilproofing finish **fiber**; oilproofing finish **fiber**; guanidine fluoroalkyl finish **fiber**

; acrylate copolymer finish **fiber**; polyoxyalkylene fluoropolymer finish **fiber**; nylon carpet finish

IT Carpets
Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(water- and oilproofing agents for, (fluoroalkyl)guanidines and fluorinated polyoxyalkylenes as)

L133 ANSWER 46 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1985:488990 Document No. 103:88990 **Spin finish** compositions. Anon. (UK). Research Disclosure, 253, 250 (No. 25342) (English) 1985. RD 253042 19850510. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1985-253042 19850510.

AB The addition of 0.5-5 weight% of alkyl glycidyl esters of polycarboxylic acid or anhydride-containing adducts of **olefinically** unsatd. natural oils and of polycarboxylic acid- or anhydride-containing **copolymers** with α -**olefin** compds. to **spin finish** compns. for polyamide or polyester yarns comprising a glycerol triester, a sulfated glycerol triester, a salt of a partial phosphate ester, and a salt of a higher fatty acid is disclosed. Alternatively, use may be made of the alkyl alkoxyalkyl esters and mixed esters of copolymers of maleic anhydride with C2-30 (preferably C12-24) α -**olefins.**

CC 40-7 (Textiles)

ST **spin finish** polyamide **fiber**; polyester **fiber spin finish**; polycarboxylic acid **spin finish fiber**; **olefin copolymer spin finish fiber**; maleic anhydride polymer **spin finish**; glycidyl ester **spin finish fiber**

IT Polyamide **fibers**, uses and miscellaneous
Polyester **fibers**, uses and miscellaneous
RL: USES (Uses)
(**spin finish** compns. for)

IT Alkenes, polymers
RL: USES (Uses)
(C12-24, polymers with maleic anhydride, esters, **spin finish** compns., for polyamide and polyester **fibers**)

IT Carboxylic acids, compounds
RL: USES (Uses)
(poly-, adducts with natural oils, alkyl glycidyl esters, **spin finish** compns., for polyamide and polyester **fibers**)

IT 108-31-6D, **polymers** with α -**olefins**, esters
RL: USES (Uses)

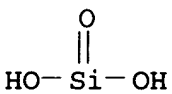
(**spin finish** compns., for polyamide and polyester **fibers**)

L133 ANSWER 47 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1985:221679 Document No. 102:221679 Fire-resistant polyester molding compositions. (Unitika Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 60015451 A2 19850126 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1983-123597 19830706.

AB A fire-resistant, glass **fiber**-reinforced polyester composition, giving a dimensionally stable product at a fast molding cycle, comprises a polyester with ≥80% ethylene terephthalate repeating units 100, a **nucleating agent** 0.1-5, a nucleating aid 0.5-10, and an organic halogenated compound 10-30 parts, in addition to an Sb-containing compound to give 0.2-1:1 Sb compound-halogen compound ratio, a glass **fiber** at 10-15 parts/composition, and an inorg. filler at 15-45 parts/composition Thus, a pelletized blend comprising poly(ethylene terephthalate) [25038-59-9] 10, Himilan 1555 (ethylene-methacrylic acid copolymer Na salt) [25608-26-8] **nucleating agent** 4, 72:28 ethylene-**propylene copolymer** modified with endo-bicyclo-[2,2,1]-5-heptene-2,3-dicarboxylic anhydride (nucleating aid) 5, GLC 935 P [poly(dibromophenylene oxide)] [74082-93-2] 16, and Sb2O3 5 parts, in addition to 20% powdered **talc** and 10% glass **fiber** (average **fiber** length 0.325 mm), was injected at 600-700 kg/cm2 and 240-250° into a mold at 100-105° at molding time 20 s to give a sample exhibiting crystallization temperature 116.2°, heat-distortion temperature 207°, **flexural** strength 1250 kg/cm2, **flexural modulus** 66,000 kg/cm2, warpage (sample thickness 1.6 mm, after heat treatment at 130° for 2 h) 5.26-5.50 mm, and flame time (UL 94) <10 s, with no blooming of fire retardants.

IT **14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(fillers, for glass **fiber**-reinforced polyesters, with low molding warpage)

RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

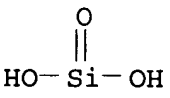
IC ICM C08L067-02
ICS C08K013-04
ICI C08K013-04, C08K007-14, C08K003-00, C08K005-00
CC 37-6 (Plastics Manufacture and Processing)
ST polyethylene terephthalate glass **fiber** reinforcement; ionomer **nucleating agent** polyester molding; bicycloheptenedicarboxylic anhydride graft **polyolefin**; polydibromophenylene oxide fireproofing agent polyester; **talc** filler polyester molding
IT Crystal **nucleation**
(**agents**, ionomers and carboxy-grafted **polyolefins**, for glass **fiber**-polyester moldings)
IT Polyoxyphenylenes
RL: USES (Uses)
(brominated, fireproofing agents, for glass **fiber** -reinforced polyesters, with low blooming)
IT Ionomers
RL: USES (Uses)
(ethylene-methacrylic acid copolymer sodium salts, **nucleating agents**, for glass **fiber** -reinforced polyesters moldable at fast molding cycles, with low product warpage)
IT **Mica**-group minerals, uses and miscellaneous
RL: USES (Uses)
(fillers, for glass **fiber**-reinforced polyesters, with low molding warpage)
IT Polyesters, uses and miscellaneous
RL: USES (Uses)
(glass **fiber**-reinforced, fire-resistant, moldable at fast molding cycles, with low product warpage)
IT Fireproofing agents
(poly(dibromophenylene oxide), for glass **fiber** -reinforced polyester moldings, with low blooming)
IT 1344-95-2 **14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(fillers, for glass **fiber**-reinforced polyesters, with low molding warpage)
IT 74082-93-2
RL: USES (Uses)
(fireproofing agents, for glass **fiber**-reinforced polyester moldings, with low blooming)
IT 9016-88-0 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(glass **fiber**-reinforced, fire-resistant, moldable at fast molding cycles, with low product warpage)
IT 25608-26-8

RL: USES (Uses)
(**nucleating agents**, for glass **fiber** -reinforced polyesters, moldable at fast molding cycles, with low product warpage)

L133 ANSWER 48 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1984:211031 Document No. 100:211031 Polyester molding compositions. (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58187449 A2 19831101 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-70657 19820427.

AB Polyester molding compns. containing inorg. reinforcing fillers 5-150, crystallization accelerators (C15-400 fatty acid salts, **silicates**, or (meth)acrylic acid-**olefin copolymer** Na or K salts) 0.1-10, triaryl phosphates 0.5-10, and tris(2,4-di-tert-butylphenyl) phosphite (I) [31570-04-4] or trilauryl trithiophosphite [1656-63-9] 0.001-10 phr have good thermal stability and crystallinity. Thus, 185 g EtCO2H was alkylated with 167.5 g C≥30 1-alkene mixture (peroxide catalyzed) to give a fatty acid which was converted to its Na salt (II). An injection molding composition was prepared from poly(ethylene terephthalate) [25038-59-9] 66.5, glass **fibers** 30, II 1.5, tricresyl phosphate [1330-78-5] 1.5, and I 0.5 part.

IT **14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(**nucleating agents**, for polyester molding compns.)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

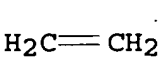
IC C08L067-02; C08K005-51; C08K007-02; C08K007-16
CC 37-6 (Plastics Manufacture and Processing)
ST polyester molding compn; phosphite ester heat stabilizer; phosphate ester heat stabilizer; heat stabilizer polyester molding; **nucleating agent** polyester molding
IT Crystal **nucleation**
(**agents**, for polyester molding compns.)
IT Ionomers
RL: USES (Uses)

(**nucleating agents**, for polyester molding compns.)
IT Carboxylic acids, compounds
RL: USES (Uses)
(C15-400, salts, **nucleating agents**, for polyester molding compns.)
IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(molding compns., **nucleating agents** and heat stabilizers for)
IT 79-09-4D, alkyl derivs., sodium salts **14807-96-6**, uses and miscellaneous 25608-26-8
RL: USES (Uses)
(**nucleating agents**, for polyester molding compns.)

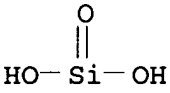
L133 ANSWER 49 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1984:211030 Document No. 100:211030 Polyester molding compositions. (Mitsubishi Chemical Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58187448 A2 19831101 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-70656 19820427.
AB The title compns., containing **polyolefins** 0.5-50, crystallization accelerators (C15-400 carboxylic acid salts, **silicates**, or (meth)acrylic acid-**olefin copolymer** salts) 0.1-10, triaryl phosphates 0.5-10, and tris(2,4-di-tert-butylphenyl) phosphite (I) [31570-04-4], trilauryl trithiophosphite [1656-63-9], or 2,2-thiodiethylene bis[3-(3,5-di-tert-4-hydroxyphenyl)propionate] [41484-35-9] 0.001-10 phr have good impact resistance, heat resistance, and crystallinity. Thus, 185 g EtCO2H was alkylated with 167.5 parts Dialene 30 (C>30 1-alkene mixture) in the presence of a peroxide to give a fatty acid, which was converted to its Na salt (II). An injection molding composition was prepared from poly(ethylene terephthalate) [25038-59-9] 61.5, glass **fibers** 30, polyethylene [**9002-88-4**] 5, II 1.5, tricresyl phosphate [1330-78-5] 1.5, and I 0.5 part.
IT **9002-88-4 14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(**nucleating agent**, for polyester molding compns.)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4



RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC C08L067-02; C08K005-51
ICI C08L067-02, C08L023-08, C08L033-02, C08L051-06
CC 37-6 (Plastics Manufacture and Processing)
ST polyester compn injection molding; **nucleating agent** polyester molding; heat stabilizer polyster molding; phosphate heat stabilizer; phosphite heat stabilizer; polyethylene **nucleating agent**
IT Crystal **nucleation**
(**agents**, for polyester molding compns.)
IT Ionomers
RL: USES (Uses)
(**nucleating agent**, for polyester molding compns.)
IT Carboxylic acids, compounds
RL: USES (Uses)
(C15-400, salts, **nucleating agents** for polyester molding compns.)
IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(molding compns., **nucleating agents** and stabilizers for)
IT 79-09-4D, alkyl derivs., sodium salts **9002-88-4** **14807-96-6**, uses and miscellaneous 25608-26-8 36704-47-9
RL: USES (Uses)
(**nucleating agent**, for polyester molding compns.)

L133 ANSWER 50 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1984:105053 Document No. 100:105053 Durable antisoiling coatings for textile **filaments.** Champaneria, Nitin J.; Harper, Lee R.; Hosegood, Edward A. (du Pont de Nemours, E. I., and Co. , USA). U.S. US 4388372 A 19830614, 10 pp. Cont.-in-part of U.S. 4,325,857.

(English). CODEN: USXXAM. APPLICATION: US 1982-356716 19820310. PRIORITY: US 1980-149334 19800513; BR 1981-2732 19810505.

AB Durable antisoiling compns. for textiles contain perfluoroalkyl esters of citric acid urethanes and reaction products of carboxylated vinyl polymers, epoxy resins, and tertiary amines. The compns. can be applied as **aqueous dispersions** containing nonionic textile lubricants. Thus, nylon 66 carpet yarn was finished with a mixture of polyethylene glycol lubricant containing 4.5% diurethane from F(CF2)6-14CH2CH2OH triester with citric acid and hexamethylene diisocyanate, and a condensate of Me2NCH2CH2OH, epichlorohydrin-bisphenol A polymer, and Et acrylate-methacrylic acid-styrene polymer. A carpet from this yarn has a soil rating of 4, compared with 6 for an untreated carpet and 3 for a topically treated carpet. A primary **spin finish** for the manufacture of **bulk** continuous-**filament** nylon 66 carpet yarn in a coupled spin-draw-**bulk** process is prepared by adding 165.4 lbs. of a 99% concentrate of ethylene oxide-**propylene** oxide **copolymer** [9003-11-6] to 1310 lbs. water followed by slow addition of 39.4 lbs. 50% **aqueous dispersion** of ethoxylated castor oil, slowly adding with mixing 281 lbs. of a 5.6% dispersion of an acrylic-modified resin, adding 184.9 lbs. of a 51% **aqueous dispersion** of a fluoro ester citric acid urethane, and diluting with water to give a composition with solid content 14.25%. The polyamide yarn was treated with 0.45% finish, drawn, **bulked**, treated with a secondary finish based on coconut oil and ethoxylated castor oil, tufted into a carpet backing, and dyed to give a fabric very resistant to soiling under normal foot traffic.

IC B32B027-34; B32B027-36; C08L063-00

INCL 428395000

CC 40-7 (Textiles)

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(aminated, reaction products with carboxylated polymers, in antisoiling compns. for polyamide **fibers**)

IT Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(antisoiling compns. for)

IT Lubricants
(for polyamide **fibers**, containing durable antisoiling finishes)

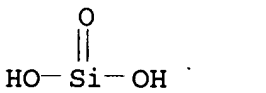
IT Soilproofing
(of polyamide **fibers**, lubricant finishes containing)

IT Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(soilproofing composition for carpet yarn from)

IT 77-92-9D, fluoroalkyl esters, urethanes 108-01-0D, reaction products with epoxy resins and methacrylic acid copolymers

822-06-0D, urethanes with tris(fluoroalkyl) citrates 25035-68-1D, reaction products with aminated epoxy resins 25068-38-6D, reaction products with amines and methacrylic acid copolymers
RL: USES (Uses)
(soilproofing finishes containing, for nylon **fibers**)

L133 ANSWER 51 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1983:180690 Document No. 98:180690 Poly(ethylene terephthalate) molding compositions. (Dainippon Ink and Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 57187350 A2 19821118 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-72246 19810515.
AB Molding compns. comprise poly(ethylene terephthalate) (I) [25038-59-9] 100, **olefin copolymers** containing **carboxylic acid metal salts** (for **nucleating agents**) 0.1-15, aromatic polyester polyether elastomers (for lowering crystallization beginning temps.) 0.5-25, and polyfunctional compds. selected from polycarboxylic acid anhydrides, polyepoxides, and polyisocyanates 0-10 parts. Thus, test pieces prepared from I 100, Himilan 1601 (ethylene-methacrylic acid copolymer Na salt) [84683-11-4] 2, Pelprene P70B 10, glass **fibers** 20, and wollastonite 80 parts had good surface gloss, heat distortion temperature 201°, and crystallization beginning temperature 100°, compared with very poor, 64, and 119, resp., for test pieces prepared from I alone.
IT **14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(fillers, containing glass **fibers**, for poly(ethylene terephthalate) containing ethylene-methacrylic acid copolymer sodium salt and polyester-polyether elastomers)
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



●3/4 Mg

IC C08L067-02; C08L033-02
ICA C08K005-10; C08K005-29; C08L063-00
CC 38-3 (Plastics Fabrication and Uses)
ST polyethylene terephthalate **nucleating agent**; polyether rubber polyester molding; glass **fiber** polyester molding; wollastonite polyester molding

IT Crystal **nucleation**
(**agents**, ethylene-methacrylic acid copolymer sodium salts, for poly(ethylene terephthalate) containing polyester-polyether elastomers)
IT Ionomers
RL: USES (Uses)
(**nucleating agents**, for poly(ethylene terephthalate) containing polyester-polyether elastomers)
IT Rubber, synthetic
RL: USES (Uses)
(polyester-polyether, poly(ethylene terephthalate) containing ethylene-methacrylic acid copolymer sodium salt and glass **fibers** and wollastonite and, for moldings)
IT 13983-17-0 **14807-96-6**, uses and miscellaneous
RL: USES (Uses)
(fillers, containing glass **fibers**, for poly(ethylene terephthalate) containing ethylene-methacrylic acid copolymer sodium salt and polyester-polyether elastomers)
IT 25038-59-9, uses and miscellaneous
RL: USES (Uses)
(moldings, containing ethylene-methacrylic acid copolymer sodium salt and polyester-polyether elastomers and glass **fibers** and wollastonite)
IT 25608-26-8
RL: USES (Uses)
(**nucleating agents**, for poly(ethylene terephthalate) containing polyester-polyether elastomers)

L133 ANSWER 52 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1982:546183 Document No. 97:146183 Lubricant compositions for finishing synthetic **fibers**. Decker, Quintin William; Marcus, Erich (Union Carbide Corp. , USA). Eur. Pat. Appl. EP 54953 A1 19820630, 23 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1981-110657 19811221. PRIORITY: US 1980-219217 19801222.
AB **Spin finishes** for synthetic **fibers** having good thermal stability and low fume emission contain 50-90% fatty acid ester, triglyceride, polyol alkanoate, or dibasic fatty acid ester and 10-50% surfactant (monoalkyl ether of ethylene oxide-propylene oxide polymer). Thus, polyethylene-**polypropylene** glycol mono-2-ethylhexyl ether [64366-70-7] [smoke point 200°, volatility 7.2%, thin-film residue on stainless steel 1.6% (removable with hot soapy water)] was mixed in ratio 20:80, 30:70, and 40:60 with coconut oil to give **spin finishes** for polyester **fibers**. **Aqueous emulsions** (10 and 20%) of the finishes were stable for ≥24 h.
IC D06M013-18; D06M013-16; C10M003-20

CC 40-7 (Textiles)
ST **spin finish fiber**; polyoxyalkylene finish **fiber**; surfactant finish **fiber**; lubricant finish **fiber**; coconut oil finish **fiber**; polyester **fiber spin finish**
IT Lubricants
(esters, in **spin finishes** for **fibers**)
IT Coconut oil
RL: USES (Uses)
(lubricant, in **spin finishes** for **fibers**)
IT Surfactants
(polyoxyalkylene ethers, in **spin finishes** for **fibers**)
IT Polyester **fibers**, uses and miscellaneous
Synthetic **fibers**
RL: USES (Uses)
(**spin finishes** for, lubricant-surfactant mixts. as)
IT Polyoxyalkylenes
RL: USES (Uses)
(**spin finishes**, containing lubricants, for polyester **fibers**)
IT 9038-95-3 37311-00-5 64366-70-7
RL: USES (Uses)
(**spin finishes**, containing lubricants, for polyester **fibers**)
IT 126-57-8 31556-45-3
RL: USES (Uses)
(**spin finishes**, containing surfactants, for polyester **fibers**)

L133 ANSWER 53 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1981:67233 Document No. 94:67233 A **spin finish** for synthetic **fibers** and methods of lubricating synthetic yarns with an **aqueous emulsion** containing this **spin finish.** Decker, Quintin William; Marcus, Erich; Koenig, Harvey Steven (Union Carbide Corp., USA). Eur. Pat. Appl. EP 17197 19801015, 81 pp. (English). CODEN: EPXXDW. APPLICATION: EP 1980-101687 19800328.
AB Polyethylene-**polypropylene** glycol alkylphenyl ether surfactants display good thermal stability, low fuming characteristics, and emulsification versatility when used to formulate **spin finishes** for synthetic **fibers.** Thus, treatment of nonylphenol with ethylene oxide (I) and propylene oxide (II) gave a colorless polyethylene-**polypropylene** glycol nonylphenyl ether [9082-01-3] (8 mol I

and 6.5 mol II) having smoke point 201°, volatility 2.4%/h, viscosity 322 and 150 cSt at 25°C and 100°F, resp., sp. gr. 1.023 at 25°, m.p. 7°, and cloud point 22°. The product had excellent heat stability and emulsification properties when tested with coconut oil, trimethylolpropane trispelargonate [126-57-8], and tridecyl stearate [31556-45-3].

IC C10M003-20; C10M003-22; D06M013-18; D06M013-20

CC 39-8 (Textiles)

ST surfactant emulsifier finish synthetic **fiber**; lubricant emulsifier finish synthetic **fiber**; polyethylene **polypropylene** glycol nonylphenyl ether

IT Coconut oil
RL: USES (Uses)
(lubricants, **spin finishes** for synthetic **fibers** containing, low-fuming heat-stable polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)

IT Emulsifying agents
Surfactants
(polyethylene-**polypropylene** glycol alkylphenyl ethers, heat-stable low-fuming, **spin finishes** containing lubricants and, for synthetic **fibers**)

IT Lubricants
(**spin finishes** for synthetic **fibers** containing, polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)

IT Synthetic **fibers**
RL: USES (Uses)
(**spin finishes** for, containing lubricants and heat-stable low-fuming polyethylene-**polypropylene** glycol alkylphenyl ether emulsifiers)

IT 9082-01-3 76483-16-4
RL: USES (Uses)
(emulsifiers, heat-stable low-fuming, **spin finishes** containing lubricants and, for synthetic **fibers**)

IT 126-57-8 31556-45-3
RL: USES (Uses)
(lubricants, **spin finishes** for synthetic **fibers** containing, low-fuming heat-stable polyethylene-**polypropylene** glycol alkylphenyl ethers as low-fuming heat-stable emulsifiers for)

L133 ANSWER 54 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1977:586014 Document No. 87:186014 Surface coating of polymers.
Thompson, David Thomas; Jackson, Reginald; Ballard, Denis George Harold; Emmerson, James Derek; Morris, Stephen; Margetts, Anthony

James; Gaitskell, John Nigel (Imperial Chemical Industries Ltd., UK). Brit. GB 1473667 19770518, 9 pp. (English). CODEN: BRXXAA. APPLICATION: GB 1974-10523 19750304.

AB Nylon 66 and poly(ethylene terephthalate) yarns were coated batchwise or continuously with polymers by treating the yarns with a Cr or Zr hydrocarbyl and exposing the treated yarns to monomer to cause it to polymerize onto the yarns. E.g., 3 g of polyester yarn without **spin finish** was dried overnight at 120°, cooled, immersed in 70 mL PhMe, treated with an excess 0.22mM tetrakis(π-allyl)zirconium [12090-34-5] in PhMe, and exposed 2 h to 10 mL CH2:CHCN. A coating of polyacrylonitrile [25014-41-9] had formed on the yarn. The coated yarn was sandwiched between 2 150-μ-diameter stainless steel wires and the assembly embedded in polyethylene [**9002-88-4**]. The adhesive shear strength of the bond was 4.8 MN/m2 compared with 2.5 MN/m2 for a similar but uncoated yarn.

IT **9002-88-4**
RL: USES (Uses)
(coating of, on synthetic **fibers**, catalysts for in situ polymerization in)

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

IC C08F002-02
CC 39-8 (Textiles)
Section cross-reference(s): 42
ST coating process synthetic **fiber**; polyamide **fiber** coating polyethylene; polyester **fiber** coating **polyolefin**; polyethylene coating synthetic **fiber**; polyisoprene coating polyester **fiber**; polyacrylonitrile coating polyester **fiber**; catalyst polymer coating **fiber**; zirconium catalyst coating **fiber**; chromium catalyst coating **fiber**

IT Polymerization catalysts
(chromium and zirconium hydrocarbyls, for **olefins** in coating on polyamide and polyester **fibers**)

IT Polyamide **fibers**, uses and miscellaneous
RL: USES (Uses)
(coating of, with polyethylene, catalysts for in situ polymerization in)

IT Polyester **fibers**, uses and miscellaneous
RL: USES (Uses)
(coating of, with **polyolefins**, catalysts for in situ polymerization in)
IT Coating process
(of polyamide and polyester **fibers**, with **polyolefins**, catalysts for in situ polymerization in)
IT 12082-46-1
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymerization of acrylonitrile on polyester **fiber**)
IT 12090-34-5 24356-01-2
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for **polymerization** of **olefins** on synthetic **fibers**)
IT 9003-31-0 25014-41-9
RL: USES (Uses)
(coating of, on polyester **fiber**, catalysts for in situ polymerization in)
IT **9002-88-4**
RL: USES (Uses)
(coating of, on synthetic **fibers**, catalysts for in situ polymerization in)

L133 ANSWER 55 OF 56 HCAPLUS COPYRIGHT 2005 ACS on STN
1976:32549 Document No. 84:32549 Polyamide yarn. Marshall, Robert Moore; Pak, Sung Kun; Dardoufas, Kimon C. (Allied Chemical Corp., USA). U.S. US 3917893 19751104, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1974-438970 19740204.
AB Polyamide yarns were given a finish making them suitable for use in braided hose, rope, or drive belts, by treating with an **aq** . **emulsion** of an oxidized polyethylene [**9002-88-4**] wax having average mol. **weight** 1000-3000 and containing 3-9% O, heating to 100-175°, and treating with a composition containing an **aqueous dispersion** of **colloidal** silica [7631-86-9] and a polyethylene glycol ester of a C6-18 aliphatic acid. Nylon 6 yarn(1260 denier/204 **fibers**) was treated with a water-resistant **spin finish** prepared by mixing 4 parts water with a composition consisting of 48.2% white mineral oil, 38.4% phosphated oleyl alc. ethoxylated with .apprx.7 mols of ethylene oxide, 6.6% sulfonated succinic acid ester of oleyl alc., and 6.8% oxidized polyethylene wax. The yarn was overfinished with a composition containing 30 parts of polyethylene glycol monopelargonate [31621-91-7] and 70 parts of a commercially available **colloidal aqueous** silica **dispersion** containing 30 **weight**% solids to give a yarn with 0.3% silica and could be processed through a coning operation and was suitable for braiding and winding operations during manufacture of industrial

rope.
IC D02J; D01H
INCL 428395000
CC 39-10 (Textiles)
IT Polyamide **fibers**
RL: USES (Uses)
(finishing agents for yarns of, for improved coning and braiding)
IT **Ethene**, homopolymer, oxidized
RL: USES (Uses)
(wax, polyamide yarn finished by, for improved coning, and braiding)

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1970:56306 Document No. 72:56306 **Polyolefin** foams. Hosoda, Kirokuro; Nakae, Hiroyuki; Shiina, Naonori; Kadowaki, Yoshio (Furukawa Electric Co., Ltd.). Ger. Offen. DE 1930134 19691218, 43 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1969-1930134 19690613.
AB **Polyolefin** foams containing 70-99.5 weight% **polyolefin** and 0.5-30 weight % polybutadiene (I) are prepared by heating a mixture of the 2 polymers in the presence of a blowing agent. No crosslinking agent is needed. The composition can be foamed in a continuous process by extrusion, injection molding, or blow molding. Light materials with high **flexural** strength, particularly useful as building materials, are obtained by addition of I to the **polyolefins**. Thus, high-d. polyethylene (II) with a melt index of 0.5 and a d. of 0.96 g/cm3 was mixed 2 min with I containing ≥98% cis-1,4 bonds on a roll mill at 140-5°. To this moxt. was added 5 parts 1,1'-azobisformamide, mixing was continued 15 min, the mixture was hot pressed at 140-5° into a plate 7 mm thick, cut into a 40 + 40-mm piece, the piece was wrapped in Al foil, and foamed 10 min at 200° in a bath of Wood's alloy. The product had the following properties (parts I, parts II, d., thickness of the foamed plate in mm, compression elasticity for 25% compression in kg/cm2 given): 0,100, 0.43, 8, -; 1, 99, 0.20, 19, -; 5, 95, 0.10, 30, -; 10, 90, 0.11, 31, 4.3; 20, 80, 0.11, -, 3.6; 30, 70, 0.12, -, 3.0; 40, 60, 0.15, -, 1.4; 70, 30, 0.45, -, -. Other **olefins** used were low-d. II, **isotactic polypropylene**, an ethylene-vinyl acetate copolymer, and chlorosulfonated polyethylene; an ethylene-acrylic acid **copolymer**, an ethylene-**propylene copolymer**, an ethylene-butene copolymer, chlorinated polyethylene or **polypropylene**, and poly(4-methyl-1-pentene) are also claimed. The foamable mixture may also contain Zn stearate, Al stearate, Ca **silicate**, CaCO3, ZnO, **talc**, TiO2, or diatomaceous earth as foam **nucleating agent** and a thickening agent such as glass **fibers** or carbon black.

IT **9002-88-4**, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RL: USES (Uses)
(chlorosulfonated, cellular, contg. butadiene polymers
IC C08F
CC 36 (Plastics Manufacture and Processing)
ST **polyolefin** polybutadiene blend foams; polybutadiene **polyolefin** blend foams; foams **polyolefins** polybutadiene blend; polyethylene polybutadiene blend foams; **polypropylene** polybutadiene blend foams
IT **Olefins**, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
IT 9003-17-2, uses and miscellaneous
RL: USES (Uses)
(cellular **olefin polymers** containing)
IT **9002-88-4**, uses and miscellaneous 9003-07-0, uses and miscellaneous 24937-78-8, uses and miscellaneous
RL: USES (Uses)
(cellular, containing butadiene polymers)
IT **9002-88-4**, uses and miscellaneous
RL: USES (Uses)
(chlorosulfonated, cellular, containing butadiene polymers)

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